



TOWN OF WELLESLEY PLANNING BOARD

WELLESLEY WALKS

A Comprehensive Pedestrian Program

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November 2009

Preface

To All Residents of the Town of Wellesley,

This document contains the Final Report from the Walkway Task Force for the Town of Wellesley's Comprehensive Town-wide Pedestrian Plan. This project was conducted in response to a recommendation of the updated Comprehensive Plan of 2008 calling for a comprehensive approach to issues affecting pedestrians in town. This document provides Wellesley with the guidance and tools to chart the future of walking in Wellesley.

The Walkways Task Force is happy to have been an active part of this process, guiding the development of the Pedestrian Plan in close coordination with staff from the Town of Wellesley, the Zoning Board, the local business community, and interested residents. While by no means a definitive solution for all of Wellesley's current and future pedestrian related challenges, the Pedestrian Plan has provided clear guidance on how all concerned stakeholders might begin to tackle Wellesley's challenges that effect walking in our community.

We hope you will find this report to be a valuable planning resource for years to come.

Sincerely,

The Walkways Task Force:

Gig Babson, Board of Selectmen
Jeanne Conroy, Planning Board
Ann Hile, Planning Board (observer), & League of Women Voters
Rick Brown, Planning Department
Meghan Jop, Planning Department
Ethan Parsons, Planning Department
Mike Paktsis, Department of Public Works
Steve Fader, Department of Public Works
Jack Pilecki, Police Department
Carol Gregory, School Department
Bob White, Trails Committee
Molly Fairchild, Green Ribbon Committee
Christine Duvivier, Citizens Group on Walkability & Green Ribbon Committee
Suzy Littlefield, School Committee
Director Janet Bowser, Natural Resources Commission
Maura O'Brien, Chamber of Commerce
Barbara Bourque, Concerned resident
Barry Monahan, Wellesley College
Kien Ho, BETA Group, Inc., Town traffic consultant

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CHAPTER ONE
Action Plan :
Summary of Strategies

November 2009

Chapter 1. Action Plan

The following pages present an “action plan” summarizing the strategies identified by the Walkways Task Force. They have been arranged by the consulting team into three categories:

- **Critical Actions:** These strategies are recommended to be pursued as soon as possible. They represent actions that can begin to be undertaken by Wellesley’s stakeholders today, and they are considered to be the most critical for improving Wellesley’s walking environment.
- **Next Steps:** These strategies are suggested for integration in short-term planning work. While several could begin to be implemented today, most require a degree of planning and coordination to be successfully implemented. Several require the identification of funding sources.
- **Future Steps:** The final set of strategies in the action plan require a greater degree of planning, stakeholder coordination, and/or financial support. While these strategies will greatly benefit Wellesley’s walking environment, they are not expected to be implemented in the short-term.

Details of each strategy can be found in Chapter 4.

Critical Actions: Strategies for Immediate Implementation

1) Critical Actions to Preserve & Improve the Quality of Life

INCREASE THE ATTRACTIVENESS OF THE WALKWAY NETWORK THROUGH DESIGN AND PROGRAMMING THAT IS SENSITIVE TO THE LOCAL CONTEXT OF EACH STREET			
	STRATEGIES	STAKEHOLDERS	PAGE
	Require installation of landscaping and trees in all private reconstruction, per DPW specifications	Natural Resources Commission (Park & Conservation Commissions)	4.3
		Department of Public Works	
REDUCE TRAFFIC VOLUMES TO IMPROVE THE WALKING EXPERIENCE			
	Enact a transportation demand management plan requirement for all commercial development Transportation demand management plans establish clear practices for reducing the number of vehicle trips a development is likely to generate. TDM efforts can include a wide range of programs such as parking pricing, universal transit passes, etc.	Board of Selectmen	4.4
		Planning Board	
REDUCE VEHICULAR SPEEDS IN RESIDENTIAL AREAS AND SHOPPING DISTRICTS			
	Create narrower streets and travel lanes through paint or construction Narrower streets or even just the perception of narrower lanes, induces slower driving.	Department of Public Works	4.4
	Install automated vehicle speed warning radar signs These make drivers aware of when they are speeding with clear digital speed readings and visual warning lights when speeding.	Police Department	4.5

2) Critical Actions to Preserve Economic Vitality and Support Well-Connected Vibrant Business Districts

AVOID COMPROMISING PEDESTRIAN NEEDS IN BUSINESS DISTRICTS			
STRATEGIES		STAKEHOLDERS	PAGE
Consider pedestrian needs in all commercial site plan approvals Ensure safe direct access from parking or the walkway network to the site and through the site. Walkways should be along desire lines with pedestrian scale lighting. Consider the trade-offs when balancing the needs of vehicles, pedestrians, bicyclists, and potentially future transit.		Planning Board	4.6
		Planning Board	4.7
Provide clear unobstructed walking right-of-way in all parking lot designs and improvements As with virtually every trip, driving begins and ends with a walking trip. In commercial areas these trips often end in a parking lot requiring shoppers to walk through a vehicle dominated space. Providing clear walkways through the parking lot designates space for the pedestrian to control.		Design Review Board	

IMPROVE ACCESS TO RETAIL DISTRICTS BY ALL FORMS OF TRANSPORTATION			
	Clarify bicycle rights to the roadway for motorists Many motorists behave aggressively towards on-road bicyclists because they are not aware that bicycles are traffic and have as much right to use the road as a motor vehicle.	Police Department	4.8
	Expand bike parking options These should include frequent short-term racks and covered bike racks at key destinations.	Department of Public Works	4.9
		Planning Board	
	Introduce concurrent crossing signals at appropriate locations Pedestrians can often safely cross a road when the parallel vehicle traffic has the green, given the conflicting turn-movements are low.	Board of Selectmen	4.9
		Department of Public Works	
	Introduce pedestrian leading interval crossing signals Pedestrian leading interval allows pedestrians to begin concurrent crossings a few seconds before the parallel traffic gets a green signal. This enables pedestrians to establish a presence in the crosswalk prior to vehicles beginning to move.	Board of Selectmen	4.9
		Department of Public Works	
	Provide an online bike parking request tool Allowing residents to identify locations where they would like to see bike parking is an efficient way of directing resources.	Department of Public Works	4.10
		Trails Committee	
		GIS Department	
IMPROVE THE APPEAL OF WALKING IN RETAIL DISTRICTS			
	Encourage businesses to conduct outdoor activities Outdoor activities generated by businesses add to the street life and increase the appeal of walking in areas with good street life.	Board of Selectmen	4.12
		Wellesley Chamber of Commerce	
	Incentivize maintenance of sidewalk space and amenities in front of individual businesses This can be achieved in a number of different ways, such as an award system, a town wide recognition of business efforts, tax incentives, etc.	Board of Selectmen	4.13

3) Critical Actions to Maintain Community and Neighborhood Character

ACCOMMODATE USERS OF ALL ABILITIES ON THE EXISTING AND FUTURE WALKING NETWORK			
	STRATEGIES	STAKEHOLDERS	PAGE
	Comply with ADA requirements in all new construction, maintenance & reconstruction projects The Americans with Disabilities Act (ADA) established equal access for people of all abilities as a civil right. Among other requirements, the ADA required universal design of the public right of way. While the Access Board is developing the official guidelines governing the pedestrian realm, it has provided guidance for the design of pedestrian facilities, including sidewalks and trails in the Draft Accessible Public-Rights-of-Way.	Department of Public Works	4.14
	Consider adjusting crossing signal duration near areas with above average senior or small children population concentrations or activity centers	Board of Selectmen	4.14

4) Critical Actions to Improve Community Connectivity, Cohesion and Communication

CONNECT GAPS IN WELLESLEY'S EXISTING WALKING NETWORK			
STRATEGIES	STAKEHOLDERS	PAGE	
Provide online sidewalk improvements/additions/removals tool A centralized depository allowing residents to request improvements and identify trouble locations helps facilitates communication between the Town and residents.	GIS Department	4.16	
ENCOURAGE WALKING WITHIN AND BETWEEN NEIGHBORHOODS			
Ensure all new sidewalks conform to DPW specifications Sidewalks must be a minimum of 5 feet wide and include a 3 foot tree lawn.	Department of Public Works	4.17	
Provide walkway network maps and walkway shortcut maps on the Town website Online maps identifying different types of walking routes, such as scenic routes, short-cuts, safest routes, etc. greatly increases the likelihood of people choosing to walk rather than other forms of travel.	GIS Department	4.18	
Institute bicycle parking requirements in zoning code As the space for the storage of cars is a common requirement in zoning codes, bikes should also be considered so that a comprehensive bicycle parking infrastructure can be established over time.	Planning Board	4.20	

5) Critical Actions to Preserve and Enhance a Healthy and Active Lifestyle

EDUCATE RESIDENTS ON THE WAYS WALKING BENEFITS THEIR WELL-BEING			
	STRATEGIES	STAKEHOLDERS	PAGE
	Identify well-being benefits of walking in newsletters Newsletters with a wide base in town such as parent teacher organization newsletters or annual town information newsletters provide a great method of informing residents of the many benefits walking provides for their well-being.	Board of Health	4.20
		Parent Teacher Organizations	
ENCOURAGE GREATER USE OF RECREATIONAL TRAILS			
	Identify practical use short cuts along trails Trails serve a distinct function in the walkway network penetrating into areas away from roadways and crossing town along unique routes that often connect places along the shortest possible route. Identifying these short-cuts along the trail will increase their use for this practical function.	Trails Committee	4.21
	Provide covered bike parking or bike lockers at all schools Covered bike parking and bike lockers provide protection from the elements and elevate biking as a transportation form.	School Committee	4.22
ENCOURAGE WALKING BETWEEN BUSINESSES			
	Actively promote visiting businesses within the business district Businesses within each district can encourage their customers to walk to nearby shops.	Wellesley Chamber of Commerce	4.23

6) Critical Actions to Promote Safety for All

INCREASE SAFETY FOR PEDESTRIANS AT VEHICULAR CROSSINGS			
STRATEGIES	STAKEHOLDERS	PAGE	
Provide enhanced high-visibility international standard colored striping or alternative paving materials / patterns for crossings Highly visible crosswalks clearly identifies locations where the pedestrian realm and the vehicle realm intersect, establishing the pedestrian's right to the road and alerting drivers.	Board of Selectmen	4.26	
	Department of Public Works		

7) Critical Actions to Encourage a Sustainable Approach to the Environment

DISCOURAGE IDLING VEHICLES AT SCHOOLS & OTHER PICK-UP/DROP-OFF LOCATIONS			
STRATEGIES	STAKEHOLDERS	PAGE	
Coordinate the organizing of "school pools," a carpooling program for school children Similar to a carpooling, setting up a school pool allows parents to coordinate pick up and drop off arrangements. School pools can greatly reduce the number of vehicles queuing at schools waiting to pick up a child.	Parent Teacher Organizations	4.29	

8) Critical Actions to Expand Community Access through All Forms of Transportation

IMPROVE WALKING CONNECTIONS TO TRANSIT AND PARKING			
	STRATEGIES	STAKEHOLDERS	PAGE
	Provide regular maintenance to station access routes Clearing of debris, repairing stairs, and filling pavement holes goes a long way in making the commuter feel well served.	Department of Public Works	4.32
		Wellesley Chamber of Commerce	
INCENTIVIZE WALKING AS AN ALTERNATIVE TO DRIVING TO BUSINESS DISTRICTS			
	Prioritize walkway access to buildings by improving entryways facing walking routes Elevating the importance of pedestrian access provides the walk-in customer with a greater sense of importance.	Design Review Board	4.33
	Sponsor "walk 2 shop" days with rewards for pedestrians These can be a combination of marketing and encouraging walking by offering things such as free water bottles, ice cream scoops, t-shirts, etc.	Wellesley Chamber of Commerce	4.33

Next Steps: Short-Term Implementation Plans

1) Short-Term Planning to Preserve & Improve the Quality of Life

INCREASE THE ATTRACTIVENESS OF THE WALKWAY NETWORK THROUGH DESIGN AND PROGRAMMING THAT IS SENSITIVE TO THE LOCAL CONTEXT OF EACH STREET			
	STRATEGIES	STAKEHOLDERS	PAGE
	Incentivize private landscaping that enriches the pedestrian experience This can be incentivized through seasonal Town awards or private sector awards recognizing exemplary designs.	Board of Selectmen	4.2
		Wellesley Chamber of Commerce	
	Install pedestrian wayfinding signs on trails and sidewalks Clear directions facilitate walking making it more reasonable as a form of transportation.	Department of Public Works	4.3
		Trails Committee	
	Organize semi-annual local trail litter clean up events These should include competitions with rewards or activities to attract greater participation.	Trails Committee	4.3
REDUCE VEHICULAR SPEEDS IN RESIDENTIAL AREAS AND SHOPPING DISTRICTS			
	Encourage buffers to create a sense of "visual friction" Objects along the roadside reduces vehicular speed <i>Business Districts</i> - on-street parking, street trees, walkway furniture, etc. <i>Residential Areas</i> - Refer to NRC and DPW policies for full growth trees	Department of Public Works	4.5
		Design Review Board	

2) Short-Term Planning to Preserve Economic Vitality and Support Well-Connected Vibrant Business Districts

AVOID COMPROMISING PEDESTRIAN NEEDS IN BUSINESS DISTRICTS			
	STRATEGIES	STAKEHOLDERS	PAGE
	Discourage or eliminate parking lots between building and pavement edge When parking is between the pavement edge and the building entrance it serves as a strong deterrent for pedestrians. Moving parking behind buildings provides the same access for drivers as if they were in the front while dramatically improving access for the walker.	Design Review Board	4.6
		Planning Board	
IMPROVE ACCESS TO RETAIL DISTRICTS BY ALL FORMS OF TRANSPORTATION			
	Clearly sign areas where biking on sidewalk is allowed People who are not comfortable in the road will want to ride on sidewalks where this is allowed.	Department of Public Works	4.8
	Clearly state biking on sidewalk regulations Those that choose to bike on the sidewalk must be informed of their responsibilities.	Police Department	4.8

<div></div>	Create a town-wide bicycle master plan A bicycle master plan should take a comprehensive look at how the bicycle can be integrated into the town's transportation network as a realistic alternative to the car.	Planning Board	4.8
	Place buildings near the street with minimal setbacks Buildings that front the sidewalk attract pedestrians while buildings separated by a parking lot or a large lawn discourage pedestrian access.	Planning Board	4.9
		Design Review Board	
	Provide bicycling facilities, especially in areas with high automobile, bicycle or pedestrian volumes In areas with high volumes of traffic, bicycles, vehicles and pedestrians should each have clearly designated travel space to minimize conflict.	Board of Selectmen	4.10
		Department of Public Works	
	Re-evaluate on- and off-street parking regulations to maximize access and minimize circling for parking	Planning Board	4.10
	Remove push-buttons for crossing signals Incorporate the pedestrian crossing signal into the intersection's signal phase cycle removing the need for push-buttons and reducing the delay for pedestrians.	Board of Selectmen	4.10
		Department of Public Works	
Time traffic signals primarily for the convenience of walkers and cyclists while maintaining acceptable level-of-service for vehicles Signals that require pedestrians to wait for extended periods of time create significant barriers to pedestrian traffic, discouraging walking even short distances. Long wait times also encourage pedestrian to act in an unpredictable, unsafe manner. Crossing the street against the signal or away from the protection of the crosswalk presents a major threat to the safety of everyone on the road.	Board of Selectmen	4.11	
	Department of Public Works		
IMPROVE THE APPEAL OF WALKING IN RETAIL DISTRICTS			
<div></div>	Amend zoning by-laws to allow outdoor dining establishments' use of public space Zoning must allow outdoor dining on public space if the Town wishes to encourage cafés and restaurants to add to street life.	Planning Board	4.11
	Designate a "furnishing zone" between walkway and street This furnishing zone should be used for seating, racks, vendors, signs, shelters, etc	Department of Public Works	4.11
		Wellesley Chamber of Commerce	
		Board of Selectmen	
	Develop high-visibility crosswalks uniquely designed for business districts Crosswalks can be very attractive branding for the business districts, providing visitors with memories of the unusual crosswalks.	Board of Selectmen	4.12
		Department of Public Works	
		Planning Board	
		Wellesley Chamber of Commerce	
	Hold street festivals in business districts and neighborhoods Street festivals are special activities that bring non-traditional walkers out to the streets.	Wellesley Chamber of Commerce	4.12
	Reduce travel lane widths in business districts This can be achieved through the use of street markings, on-street parking, bike lanes, or pavement reduction.	Department of Public Works	4.13

3) Short-Term Planning to Maintain Community and Neighborhood Character

ACCOMMODATE USERS OF ALL ABILITIES ON THE EXISTING AND FUTURE WALKING NETWORK			
	STRATEGIES	STAKEHOLDERS	PAGE
	Institute an "uneven sidewalk shaving program" to smooth minor naturally occurring vertical shifts in pavement Concrete sidewalks often heave in cold environments creating raised lips that can create dangerous situations for individuals with ambulatory disabilities. A request responsive program can grind the raised edge down to smooth the joints & remove the dangerous lip.	Department of Public Works	4.14
	Provide appropriate curb-cuts at every intersection or crossing Curb cuts are necessary for individuals relying on mobility aids, such as wheelchairs, walkers, and even strollers. It is important to provide these at appropriate locations, i.e., lined up parallel to the crossing it is serving. Providing curb cuts on the corner is only appropriate in locations with "pedestrian-only" signal phase which allows diagonal crossing. Intersections with only parallel / perpendicular crossings should avoid corner curb cuts instead providing a separate curb cut for each crossing.	Department of Public Works	4.14
PROMOTE CONSISTENT HIGH-QUALITY, CONTEXT-SENSITIVE DESIGNS FOR WALKING			
	Develop a flexible, context sensitive streetscape design guidelines manual This should allow for incorporating local preference while establishing a clear set of designs for different street classifications.	Dept. of Public Works	4.15
		Planning Board	

4) Short-Term Planning to Improve Community Connectivity, Cohesion and Communication

CONNECT GAPS IN WELLESLEY'S EXISTING WALKING NETWORK			
	STRATEGIES	STAKEHOLDERS	PAGE
	Encourage neighborhood plans that identify and prioritize missing connections Local residents are the greatest resource for identifying issues in their area. Neighborhood plans empower the local residents and provide invaluable tools to the Town.	Planning Board	4.16
ENCOURAGE WALKING WITHIN AND BETWEEN NEIGHBORHOODS			
	Support & encourage block parties, neighborhood garage sales, etc. These types of events provide momentum to spur activity and coordination among neighbors.	Board of Selectmen	4.18

EXPAND & ENHANCE FUTURE PHYSICAL CONNECTIONS WITHIN WELLESLEY			
	Educate residents on safety protocols for in-road walking In certain neighborhoods and on certain roads, sidewalks are not necessary for safe walking or are not wanted by the local residents. Educating the walking individuals on the road improves their safety and encourages walking.	Police Department	4.18
	Encourage development of a non-roadway pedestrian network This should connect through blocks and sites, and connect buildings to each other, to the street, and transit facilities. It is necessary to provide the connections from the roadside sidewalk in to and through private property in order to have a comprehensive pedestrian network.	Planning Board Wellesley Chamber of Commerce	4.19

5) Short-Term Planning to Preserve and Enhance a Healthy and Active Lifestyle

EDUCATE RESIDENTS ON THE WAYS WALKING BENEFITS THEIR WELL-BEING			
	STRATEGIES	STAKEHOLDERS	PAGE
	Identify well-being benefits on wayfinding kiosks/maps Short pieces of information on the benefits of walking on wayfinding kiosks encourages existing pedestrians to walk more often.	Board of Health	4.20
ENCOURAGE GREATER USE OF RECREATIONAL TRAILS			
	Hold trail centered public events & fundraising activities Public events can introduce non-trail users to the trail system.	Board of Selectmen	4.21
		Trails Committee	
	Provide signage and maps at all trailheads Signage and maps with distance information placed at trailheads in order to direct people along the trail and from the trail-end to nearby destinations integrates the trail system further into the walkway network.	Trails Committee	4.21
	Charge for high school parking permits to encourage shared spaces, carpooling, walking, and biking. Limiting the number of spaces available to students and placing a significant price on the permit can result in fewer students driving to school.	School Committee	4.22
	Coordinate the organizing of inter-neighborhood "walking school buses" Walking school buses are great ways to encourage safe walking to school, stimulate social interaction, and teach young students how to safely walk to school on their own.	Parent Teacher Organizations	4.22
	Institute well-planned "walk & bike to school" days a few times a year On walk & bike to school days driving to school should be strongly discouraged and walking and biking should be encouraged.	Board of Health	4.22
		School Committee	
	Provide students and parents with recommended walking route information tailored specifically to each school These maps should identify preferred routes with sidewalks and safe crossings to the school from all the neighborhoods nearby.	GIS Department	4.23
		School Committee	
	Regularly revisit crossing guard locations and relocate accordingly Every few years the walking patterns of the new students may change the locations where crossing guards best serve the student's needs, revisiting this every few years ensures that they are in ideal locations.	Police Department	4.23

ENCOURAGE WALKING BETWEEN BUSINESSES			
	Promote a "Park Once" strategy for business districts Make efficient use of the existing parking supply by including as many spaces as possible in a common pool of shared, publicly available spaces.	Board of Selectmen	4.24
		Planning Board	
		Wellesley Chamber of Commerce	
	Provide clear and ample signage to parking facilities The most visible and most convenient parking spaces are frequently entirely full, while simultaneously, parking spaces just behind or just under a building -- or a block away -- sit largely vacant. The result is often a perceived parking shortage, even when a district as a whole has hundreds of vacant parking spaces available.	Board of Selectmen	4.24

6) Short-Term Planning to Promote Safety for All

INCREASE SAFETY FOR PEDESTRIANS AT VEHICULAR CROSSINGS			
	STRATEGIES	STAKEHOLDERS	PAGE
	Expand and enforce "No-Right-On-Red" regulations "No-Right-On-Red" regulations protect pedestrians from turning vehicles.	Board of Selectmen	4.25
		Police Department	
	Institute a maximum intersection curb radii standard Wide curbs allow cars to speed around corners, the wider the faster a vehicle can go, limiting the radius of a curb limits the possible turning speed.	Board of Selectmen	4.25
		Planning Board	
	Maintain clear site lines at intersections and crossings Clear site lines allow pedestrians a wide field of view to see oncoming vehicles and allow vehicles to see pedestrians well before arriving at the crossing.	Department of Public Works	4.25
	Use enhanced countdown-count up pedestrian signals at wide intersections Signals with visible second timers that indicate the wait time until the walk signal and countdowns until the walk cycle ends increase pedestrian compliance.	Board of Selectmen	4.27
		Department of Public Works	
MAINTAIN & ENHANCE PEDESTRIAN SAFETY ALONG ALL ROADWAYS			
	Establish well identified crossings along pedestrian desire lines People often cross the road where it is most convenient which is not necessarily at the existing crossings. Identifying these desire lines and providing crossings improves safety.	Department of Public Works	4.27

7) Short-Term Planning to Encourage a Sustainable Approach to the Environment

DISCOURAGE IDLING VEHICLES AT SCHOOLS & OTHER PICK-UP/DROP-OFF LOCATIONS			
	STRATEGIES	STAKEHOLDERS	PAGE
	Adopt and enforce an anti-idling ordinance at all schools and municipal buildings A municipal ordinance can designate idling time limits town wide or for specific locations, for all vehicles, just buses, or just private vehicles.	Board of Selectmen	4.29
		Planning Board	

DISCOURAGE VEHICLES CIRCLING IN BUSINESS DISTRICTS			
	<p>Explore market based pricing of on-street parking in appropriate locations Always available, convenient, on-street customer parking is of primary importance for retail to succeed. To create vacancies and rapid turnover in the best, most convenient, front door parking spaces, it is crucial to have price incentives to persuade some drivers -- especially employees -- to park in the less convenient spaces (in remote lots or in available on-street parking a block or two away): higher prices for the best spots and cheap or free prices for the less convenient, currently underused spaces.</p>	Board of Selectmen	4.30

8) Short-Term Planning to Expand Community Access through All Forms of Transportation

IMPROVE WALKING CONNECTIONS TO TRANSIT AND PARKING			
	STRATEGIES	STAKEHOLDERS	PAGE
	<p>Improve train station and bus stop amenities This include better shelters, more seating, more information, newspaper stands, etc.</p>	MBTA Board of Selectmen	4.31
	<p>Integrate access routes to transit stations and adjacent properties Walkways should be distinct from parking lots or street pavement and have street trees and lighting connecting transit stations and building entrances.</p>	Planning Board	4.31
INCENTIVIZE WALKING AS AN ALTERNATIVE TO DRIVING TO BUSINESS DISTRICTS			
	<p>Mix land uses that generate and attract pedestrians This stimulates street activity attracting more people to walk to the business district.</p>	Planning Board	4.33

Future Steps: Long-Term Implementation Plans

1) Long-Term Plans to Preserve & Improve the Quality of Life

INCREASE THE ATTRACTIVENESS OF THE WALKWAY NETWORK THROUGH DESIGN AND PROGRAMMING THAT IS SENSITIVE TO THE LOCAL CONTEXT OF EACH STREET			
	STRATEGIES	STAKEHOLDERS	PAGE
	Commission locally designed public art installations to be placed along walkways These installations can act simply as public art or utilitarian uses such as seating, wayfinding kiosks, mile markers along trails, etc.	Trails Committee	4.2
	Program additional public space such as plazas, greens, and pocket parks Public space stimulates a great deal of pedestrian activity and provides a forum for the spontaneous interaction of individuals.	Board of Selectmen	4.3
		Department of Public Works	
	Provide historic informational plaques along walking routes and at destinations Historic plaques provide interesting information that increases the value of place to the audience and makes walking a more enjoyable experience.	Historical Commission	4.3
		Natural Resources Commission (Park & Conservation Commissions)	
REDUCE TRAFFIC VOLUMES TO IMPROVE THE WALKING EXPERIENCE			
	Explore granite curb installations throughout town These can be part of or independent of sidewalks, it should consider cost, drainage, and local preference.	Board of Selectmen	4.4
		Planning Board	
REDUCE VEHICULAR SPEEDS IN RESIDENTIAL AREAS AND SHOPPING DISTRICTS			
	Conduct additional speed enforcement in trouble locations	Police Department	4.4
	Install traffic calming in trouble locations, tailored to contextual setting Require appropriate traffic calming features for new commercial construction and during any routine maintenance and resurfacing projects. Establish a method for residents to request traffic calming. Install appropriate traffic calming features in 'high risk' areas, such as around schools, playground, parks, etc.	Department of Public Works	4.5
		Police Department	

2) Long-Term Plans to Preserve Economic Vitality and Support Well-Connected Vibrant Business Districts

AVOID COMPROMISING PEDESTRIAN NEEDS IN BUSINESS DISTRICTS			
STRATEGIES	STAKEHOLDERS	PAGE	
Maintain 8-15' unobstructed walking zone in commercial areas Large sidewalks in commercial areas improves the versatility of the public realm, allowing large volumes of people to pass through, providing space for public events, while encouraging walking by making the pedestrian feel important and well served.	Department of Public Works	4.6	
	Planning Board		

IMPROVE ACCESS TO RETAIL DISTRICTS BY ALL FORMS OF TRANSPORTATION			
	Adopt 'Complete Streets' guidelines Complete Streets provide designated space for all users on the road (drivers, cyclists, pedestrians, disabled individuals, transit riders)	Board of Selectmen	4.7
		Planning Board	
	Allocate road space primarily to the benefit of walkers and cyclists within retail districts Rebalancing space to improve access for pedestrians and cyclists encourages walking and biking in business districts.	Board of Selectmen	4.7
		Department of Public Works	
	Create sidewalk widths which reflect the level of potential pedestrian activity Sidewalks that are too small for the level of activity create conflicts between pedestrians forcing people to walk in the road, sidewalks that are larger than necessary waste resources that could be better used in other places.	Department of Public Works	4.8
IMPROVE THE APPEAL OF WALKING IN RETAIL DISTRICTS			
	Explore road diets to increase sidewalk width for outdoor dining In areas where sidewalks are not wide enough to accommodate outdoor seating the option of reducing travel lanes, removing parking or even removing a travel lane should be considered in order to expand the sidewalk.	Planning Board	4.13
		Department of Public Works	
		Planning Board	
	Provide business district "gateways" along pedestrian access routes Gateways are an attractive way of branding districts within a town, creating these along walkways treats pedestrians as important visitors.	Planning Board	4.13
		Wellesley Chamber of Commerce	

3) Long-Term Plans to Maintain Community and Neighborhood Character

ACCOMMODATE USERS OF ALL ABILITIES ON THE EXISTING AND FUTURE WALKING NETWORK			
	STRATEGIES	STAKEHOLDERS	PAGE
	Replace aesthetic brick pavers with stamped pavement Brick pavers are an attractive alternative to asphalt or concrete but often shift in cold climates creating dangerous lips that may cause falls to occur. Replacing existing brick pavers with a brick, flagstone, cobblestone, etc. pattern imprinted pavement maintains the aesthetic benefit while removing the potential danger caused by shifting and heaving.	Department of Public Works	4.15
PROMOTE CONSISTENT HIGH-QUALITY, CONTEXT-SENSITIVE DESIGNS FOR WALKING			
	Require compliance with streetscape design guidelines for all new development	Design Review Board	4.16
		Zoning Board of Appeals	
		Planning Board	

4) Long-Term Plans to Improve Community Connectivity, Cohesion and Communication

CONNECT GAPS IN WELLESLEY'S EXISTING WALKING NETWORK			
	STRATEGIES	STAKEHOLDERS	PAGE
	Institute a clear quantitative sidewalk condition rating system to direct maintenance efforts Setting out a clear methodology for rating the condition of sidewalks will help direct maintenance efforts. Things to include in this analysis should be material, perpendicular cracking, parallel cracking, heaving, edge integrity and holes. This system should have a number of tiers including a condition rating and a period for review, such as <i>Excellent</i> (review in 5 years), <i>Good</i> (review in 3 years), <i>Fair</i> (review in 2 years), <i>Watching</i> (review in 1 year), <i>Repair</i> , and <i>Replace</i> . A rating guide can provide photo examples of the different levels in order to ensure continuity from analysis to analysis.	Department of Public Works	4.16
		Board of Selectmen	
		Planning Board	
	Provide sidewalks that are continuous and connected with trails Discontinuous walkways discourage walking and diminish the likelihood of the facilities use for travel.	Department of Public Works	4.17
Trails Committee			
EXPAND & ENHANCE FUTURE PHYSICAL CONNECTIONS WITHIN WELLESLEY			
	Consider pedestrian overpass/underpass at railroad corridors and limited access roadways In some situations safe at-grade crossings are impossible to provide, rails and high speed highways are among these. When a need for a crossing of these facilities is identified overpasses and underpasses may be the only way to provide the crossing.	Board of Selectmen	4.18
		Planning Board	
	Minimize the number of wide streets with over one lane in each direction As a general rule, regardless of the level of crossing infrastructure, each extra lane on a roadway diminishes the comfort pedestrians feel crossing the road.	Board of Selectmen	4.19
PRESERVE ABILITY TO CIRCULATE BY ALL FORMS OF TRANSPORTATION			
	Install bike and pedestrian auto-detection at intersections Auto detection of pedestrians and bicyclists improves the safety and service provided to all travelers.	Board of Selectmen	4.19

5) Long-Term Plans to Preserve and Enhance a Healthy and Active Lifestyle

ENCOURAGE GREATER USE OF RECREATIONAL TRAILS			
STRATEGIES	STAKEHOLDERS	PAGE	
Encourage parents of students living within a mile of the school to allow them to walk rather than chauffeuring them	School Committee	4.22	

	Provide enhanced features at intersections within 1/4 mile of schools Concentrating on providing specially designed crossings with features within a 1/4 mile of schools that make drivers more aware and pedestrians feel more safe improves the walking experience for students.	Board of Selectmen	4.23
ENCOURAGE WALKING BETWEEN BUSINESSES			
	Provide large format district directory maps between parking locations and destinations and at business district "gateways" Business directories serve as advertising for the local businesses, make customers aware of their options, and direct them to their destinations.	Board of Selectmen	4.24

6) Long-Term Plans to Promote Safety for All

INCREASE SAFETY FOR PEDESTRIANS AT VEHICULAR CROSSINGS			
	STRATEGIES	STAKEHOLDERS	PAGE
	Install corner bollards to buffer pedestrians from traffic Corner bollards provide physical and visual protection for pedestrians at intersections.	Department of Public Works	4.25
	Provide curb-extensions Curb extensions place the pedestrian in a highly visible location, increase their site lines, and reduce the crossing distance.	Department of Public Works	4.26
	Provide pedestrian refuge islands across roads of more than two lanes Pedestrian refuge islands allow pedestrians to wait for a safe crossing when unable to cross the entire road at in a single attempt.	Board of Selectmen	4.26
		Department of Public Works	
		Police Department	
MAINTAIN & ENHANCE PEDESTRIAN SAFETY ALONG ALL ROADWAYS			
	Install pedestrian-scaled street lighting in addition to roadway lighting Street lights are intended to light the street and not usually intended to serve the walkway making pedestrian scaled lighting desirable.	Department of Public Works	4.27
		Planning Board	
	Provide on-street parking and/or bicycle lanes to provide "buffers"	Police Department	4.28
		Department of Public Works	
	Reduce the number of vehicular curb cuts to minimum necessary This improves safety for pedestrians and improves traffic flow on the roadway.	Department of Public Works	4.28
		Planning Board	
		Zoning Board of Appeals	

7) Long-Term Plans to Encourage a Sustainable Approach to the Environment

DISCOURAGE VEHICLES CIRCLING IN BUSINESS DISTRICTS			
	STRATEGIES	STAKEHOLDERS	PAGE
	Develop coordinated access management plans for key business district corridors	Planning Board	4.30

Access management plans limit the number of potential vehicle conflict points along a major corridor as a way to facilitate all movements. In most cases these plans identify ways to allow movement along the corridor without entering the main thoroughfare.	Wellesley Chamber of Commerce	
Establish commercial parking benefits districts to reinvest parking revenue into the business district To 1) efficiently manage demand for parking while accommodating customer, employee and resident parking needs, and 2) Put customers first: create vacancies and turnover of the most convenient “front door” curb parking spaces to ensure availability for customers and visitors.	Board of Selectmen	4.30
	Wellesley Chamber of Commerce	

8) Long-Term Plans to Expand Community Access through All Forms of Transportation

IMPROVE WALKING CONNECTIONS TO TRANSIT AND PARKING			
	STRATEGIES	STAKEHOLDERS	PAGE
	Provide ample pedestrian scale lighting at rail stations and along station access routes Lighting should be designed to serve the pedestrian and illuminate all areas where people may walk or wait.	MBTA	4.32
		Department of Public Works	
	Provide enhanced intersections within 1/4 mile of commuter rail stations Providing special features at intersections near stations encourages people to walk.	Board of Selectmen	4.32
		Department of Public Works	
INCENTIVIZE WALKING AS AN ALTERNATIVE TO DRIVING TO BUSINESS DISTRICTS			
	Explore funding year-round town circulators/shuttles/trolleys Circulators can shuttle people between business districts and homes, increasing the number of people walking.	Board of Selectmen	4.32
		Wellesley Chamber of Commerce	



TOWN OF WELLESLEY PLANNING BOARD

WELLESLEY WALKS

A Comprehensive Pedestrian Program

CHAPTER TWO

Why This Plan:

An Introduction

November 2009

Chapter 2. An Introduction

Welcome to the Town of Wellesley's first pedestrian plan. This document is intended to lay out a framework for advancing the continued improvement of walking facilities within our community. After many years of steadily improving infrastructure that has brought continued pedestrian activity to commercial districts, recreational paths, and residential neighborhoods, the Planning Board recognized that a consolidated roadmap was necessary to chart the course of pedestrian improvements for the next several years.

Why This Study: Purpose & Need

Wellesley today is benefited by a wide array of excellent walking facilities. These include comfortable sidewalks with benches and good lighting in our commercial districts that welcome shoppers, strollers, families, and visitors of all kinds to the stores and restaurants of Wellesley Square, Wellesley Hills, and Lower Newton Falls; High quality crosswalks throughout town that clearly warn motorists and protect walkers; An excellent recreational path system that knits



Wellesley Square

neighborhoods with Wellesley's ponds, brooks, reservations, and other recreational resources; and A growing system of neighborhood sidewalks and walkways that

enable residents and children to walk to work, transit, and school. The Town continues to build upon this tradition with new high quality sidewalks, crosswalks, and pedestrian amenities at Linden Square and along Weston Road and Washington Street.



Caroline Brook Trail

Barriers

Nonetheless, Wellesley continues to face many challenges in its walking environment. Many streets continue to see vehicle speeds and/or volumes that act as significant barriers to pedestrian seeking to cross these streets. The wonderful asset of the commuter rail line unfortunately also limits pedestrian movement, even with the existing bridges and periodic crossings.

Regional corridors, such as Worcester Street (Route 9), are significant barriers for pedestrians as well. When Route 9 was widened, travel times from the suburbs to Boston improved, but the pedestrian environment suffered terribly, with significantly increased crossing distances and more serious and fatal injuries for pedestrians. Ironically, vehicular demand has funneled onto Route 9, resulting in traffic congestion that has ultimately negated almost all of the benefit of the widening.

At a smaller scale, many newer retail developments – such as Linden Square – have restricted or discouraged walking by creating expanses of parking with very limited pedestrian facilities. Few will pass through these large parking lots on foot – even if it is the fastest, most direct route – disconnecting the walkability of the new streetscapes from the auto-oriented stores facing the parking.



Streetscape at Linden Square



Pedestrian unfriendly parking at Linden Square

For those who take public transit, walking is a critical connection from home to a rail station, as well as to their final destination after getting off transit. Increased transit ridership depends on comfortable, safe, and convenient pedestrian connections along most if not all likely walking



Wellesley Square station – designed for park & ride

paths and via the most direct routes possible. Wellesley is benefitted by three convenient commuter rail stations, but access to each requires traversing a parking lot without walkways or an exposed stairway from a crossing vehicle bridge, creating an auto-oriented park & ride environment. Only Wellesley Farms station has a dedicated at-grade pedestrian connection from a street sidewalk to the platform. Furthermore, these stations have few – or completely lack – sheltered waiting areas, further encouraging riders to drive and wait for a train in their cars.

Connectivity

Connectivity between neighborhoods and business districts is important to address, especially if the Town wishes to encourage walking as an alternative to the automobile. Wellesley's commercial squares have excellent walking facilities, with wide sidewalks, good pedestrian-scale lighting, well-marked crosswalks, and high quality treatments, such as brick pavers, cast-iron benches, and trash receptacles. However, connections into those squares from nearby neighborhoods are often inferior or lacking. For many, the squares are great places to walk, but they can only get there safely by car. The heavy investment in walking facilities stops short, missing an opportunity to shift many short trips from nearby residences to foot.



Sidewalk connecting to Linden Square

Schools

Fundamental to the future sustainability of Wellesley is the attitudes towards walking that today's youth have. While the Town has undergone extensive efforts to improve pedestrian safety near its schools, the percentage of driving or dropped-off students continues to grow, dwarfing the percentage that walks – even at “neighborhood” schools. Where walking was once the primary form of transportation to school – and continues to be the safest – driving has been completely embraced by students and the parents who drive them. To a large degree, this is due to the lack of pedestrian connections. It is also due to a lack of education about the safety and impacts of driving.



Unshoveled sidewalk at Wellesley High School

Incomplete System

Ultimately, Wellesley has some excellent walking facilities that benefit thousands each year. In many places, this has created stellar walking environments that are superior to anything in comparable suburban communities. Unfortunately, many of these facilities are disconnected, resulting in an incomplete system that greatly reduces the ability for many to make simple walking trips – especially children. A continuous safe walking route is the first priority for encouraging walking. Much like it is essential that streets connect to one another in order to drive, sidewalks and pathways should connect to one another as well.



A discontinuous sidewalk on Laurel Ave. off Forest St.

Even those who drive must walk at least a short distance from their parked car to their final destination. While many locations in Wellesley's commercial squares accommodate parkers well, each has many obstacles still to overcome to help make shopping easier to conduct with just one stop.



Missing sidewalk in Wellesley Square on Weston Rd.

Simple improvements to the walking environment near parking lots and on-street spaces can have a great effect on increasing walking in commercial areas and moving frequent short hops by car to foot. Wider sidewalks, better lighting, safer crossings, convenient benches, protective awnings and dozens of other treatments help to encourage trips on foot instead of by car.

Our Lifestyles

Walking may have an even greater value to the residents of Wellesley than traffic reduction. Walking is a key component of healthy lifestyles and fighting the growing obesity epidemic in our country. As health care costs rise and physical fitness declines, we must be cognizant of the environment our children are being raised in. The



Running in the street

vast majority of today's students drive to class, even if school is just a block away. With several hundred students living within a short walk of our schools, using the automobile may be establishing a preference for driving over walking at an early age. Encouraging walking today can help with our health and environment in the future.

What's Been Done: Background

Wellesley's history of making quality walking environments has resulted in some exceptional spaces. Wellesley Square boasts a nearly fully-connected network of wide sidewalks, many trimmed with brick pavers. The Square includes quality benches, lighting, and trash receptacles; well-marked and lighted crosswalks; and an engaging streetscape with very few vehicular curb cuts.



Wellesley Square



Wellesley Hills

The Town has expanded upon this success over the years to create excellent walking environments in Wellesley Hills and Lower Falls. These have been connected with a high quality sidewalk and crosswalks along most of the length of Washington Street, helping to form a pedestrian spine through the heart of Wellesley and along many of the connectors to Washington Street.

Wellesley has sought to continue this successful tradition of improving its walking environments throughout town, with on-going sidewalk



Typical crosswalk treatment: Linden St.

improvement and expansion projects, such as along Weston Road and Linden Street. Recently completed, Linden Square presents some of the most state-of-the-art walking treatments in an environment that was once completely dominated by the car.



Linden Square pedestrian treatments

A Comprehensive Plan

Nonetheless, Wellesley has many hurdles to overcome to realize the goal of increased walkability, as discussed above. This was recognized during the 2008 Comprehensive Plan update, which called for a "sidewalk and walkways plan" for Wellesley. The Comprehensive Plan update and the original 1994 Comprehensive Plan included a number of important goal statements that are very relevant to the walkability

of Wellesley. These statements are listed in **Error!**

Reference source not found. below. The statements

recognized that pedestrian mobility is an important part of many aspects of daily life in Wellesley and should not simply be confined to the realm of sidewalks and crosswalks. As noted in the

selected goals, walkability is an integral part of economic vitality, community cohesion, environmental stewardship, and healthy lifestyles.

Figure 1 Walkability Goals of the Comprehensive Plan

Foster community-focused retail and service activities	Complete paths/trails through all neighborhoods
Enhance unique role and character of commercial areas	Improve traffic and parking management
Protect and enhance Wellesley's residential and village character	Improve pedestrian circulation in commercial districts
Strengthen neighborhood planning	Implement town-wide pedestrian and bicycle planning
Maintain high standards of design excellence	Improve safety at key intersections
Reduce the impact of local or through traffic in neighborhoods	Create intra-town public transportation services
Preserve network of open space	Plan for future Town recreational, educational, infrastructure, safety, and service needs

These goals were established in recognition of the great accomplishments Wellesley has made to encourage walking as a part of daily life in Wellesley – as well as an acknowledgment that much was still needed to make walking a viable alternative for many more trips. The 2008 Plan update took the needed step of recommending that Wellesley develop its first formal pedestrian plan as a framework and guiding document for improving walking in Wellesley in the future.

Development of This Plan: The Planning Framework

This document was prepared in response to a recommendation of the 2008 Comprehensive Plan update. The study was conducted under the supervision of the Walkways Task Force – a group of various stakeholders, including representatives from Town boards and departments, local institutions, the business community, and Wellesley's residents. This Task Force directed the Plan's development and provided indispensable insights from a wide variety of perspectives. Along with this high-level guidance, a public needs assessment workshop was held to gather more specific, on-the-ground identification of issues with Wellesley's walking environment.

During a series of six meetings, the Task Force established consensus on a vision statement, a set of goals, and a number of objectives for the pedestrian plan (see Figure 2). The vision statement is a positive declaration of intent that everyone could agree upon. Agreement on a broad set of goals allowed each Task Force member to ensure that their interests – and those of the interests they represented – had a stake in the Plan by finding common ground among differing and even potentially conflicting interests. Having a set of goals helped focus the Task Force on the development of this Plan and led to the formulation of more specific objectives. The objectives were formulated as actionable tasks to guide implementation of the Plan's policy and operational recommendations.

Figure 2 Planning Process



While the vision, goals, objectives, and strategies described below are by no means a fully complete solution to all of Wellesley's pedestrian transportation needs, they represent the beginnings of a framework for improving walking in the near term and the not-too-distant future. The mere existence of this Plan acknowledges the importance of walking for today's residents and tomorrow's. The Plan does not define the detailed design of each street in Wellesley, but rather it creates a broad and refined structure to preserve, enhance and transform the public realm, to ensure that capital improvements and other physical changes to the public realm, as well as public policies and private initiatives, all help Wellesley achieve economic, environmental, and cultural success by making walking a central component of our transportation future.



TOWN OF WELLESLEY PLANNING BOARD

WELLESLEY WALKS

A Comprehensive Pedestrian Program

CHAPTER THREE

**Where We Are Today:
Existing Conditions**

November 2009

Chapter 3. Where We Are Today: Existing Conditions

In order to establish a Plan with solid strategies for Wellesley, an understanding is needed of the existing policies, practices, and improvements related to walking. Since a detailed review of Town practices and town-wide walking infrastructure was not possible within the scope of this effort, members of the Task Force and Town staff brought forth a thorough summary of existing programs and infrastructure to form the baseline for the Plan to work from.

Existing Pedestrian-Oriented Policies

The Town incorporates pedestrian planning principles in the design and installation of street, sidewalk, and curblane infrastructure throughout Wellesley. The community has also installed an extensive off-street path and trail system which is well-maintained and signed. The Town maintains all Town-owned streets and sidewalks, including operating crossing signals, clearing catch basins, and removing snow. Trails are not cleared of snow in the winter months.

Where People Walk: Facility Design and Installation

The following regulatory policies of the Town incorporate pedestrian planning to some extent, as described below.

Subdivision Regulations

Section VII of the Town of Wellesley's Subdivision Regulations governs the construction of streets, and it includes the requirement that curbs are modified to accommodate pedestrians wherever a crosswalk is placed. The Planning Board is responsible for reviewing any subdivision plans to ensure compliance.

Project of Significant Impact Regulations

The Planning Board has special regulations governing a Project of Significant Impact. These regulations require approval from the Board of Selectmen of the proponent's "traffic and pedestrian safety" plan. The Planning Board will not approve such projects without an approval from the Board of Selectmen.

Design Review Board Guidelines

The Design Review Board is body appointed by the Planning Board to ensure that the design of any improvements on a public way are in keeping with Wellesley's "community character." As part of its review of projects, the Board expects that:

- Signing in districts with pedestrian scales should be so oriented;
- Pedestrian walkway grades should be kept to 5% or less; and
- Handicapped pedestrian access to buildings should be provided in accordance with State regulations.

The Board serves in an advisory capacity to the Building Inspector, Planning Board and Zoning Board of Appeals.

Curb Cut Policy

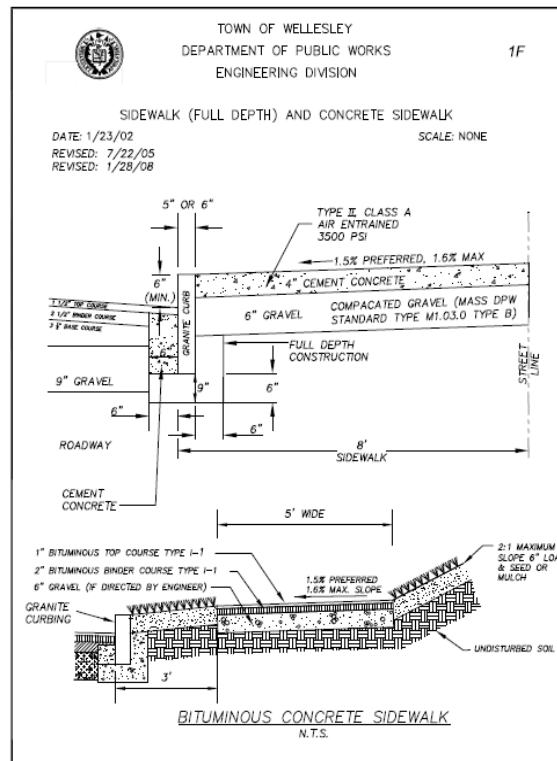
Wellesley's policy for "Driveway Aprons and Curb Cuts" dictates the design of vehicular drives across the public sidewalk. It includes these measures for pedestrian safety:

- Generally not more than two curb cuts per parcel
- 12-foot residential driveways (or 20-feet for a double driveway)
- At least 20-feet between curb cuts
- At least 50-feet to the nearest intersection
- A raised apron that keeps the sidewalk grade level

This policy is enforced by the Public Works Department for all street opening permits.

Sidewalk Details and Specifications

The Town of Wellesley's Public Works Department maintains detailed specifications for the construction of new sidewalks in town. In commercial areas, their standard is for concrete sidewalks at least 8-feet wide. Residential streets are expected to have a minimum 5-foot wide bituminous concrete (asphalt) sidewalk with a 3-foot planting strip adjacent to the street curb.

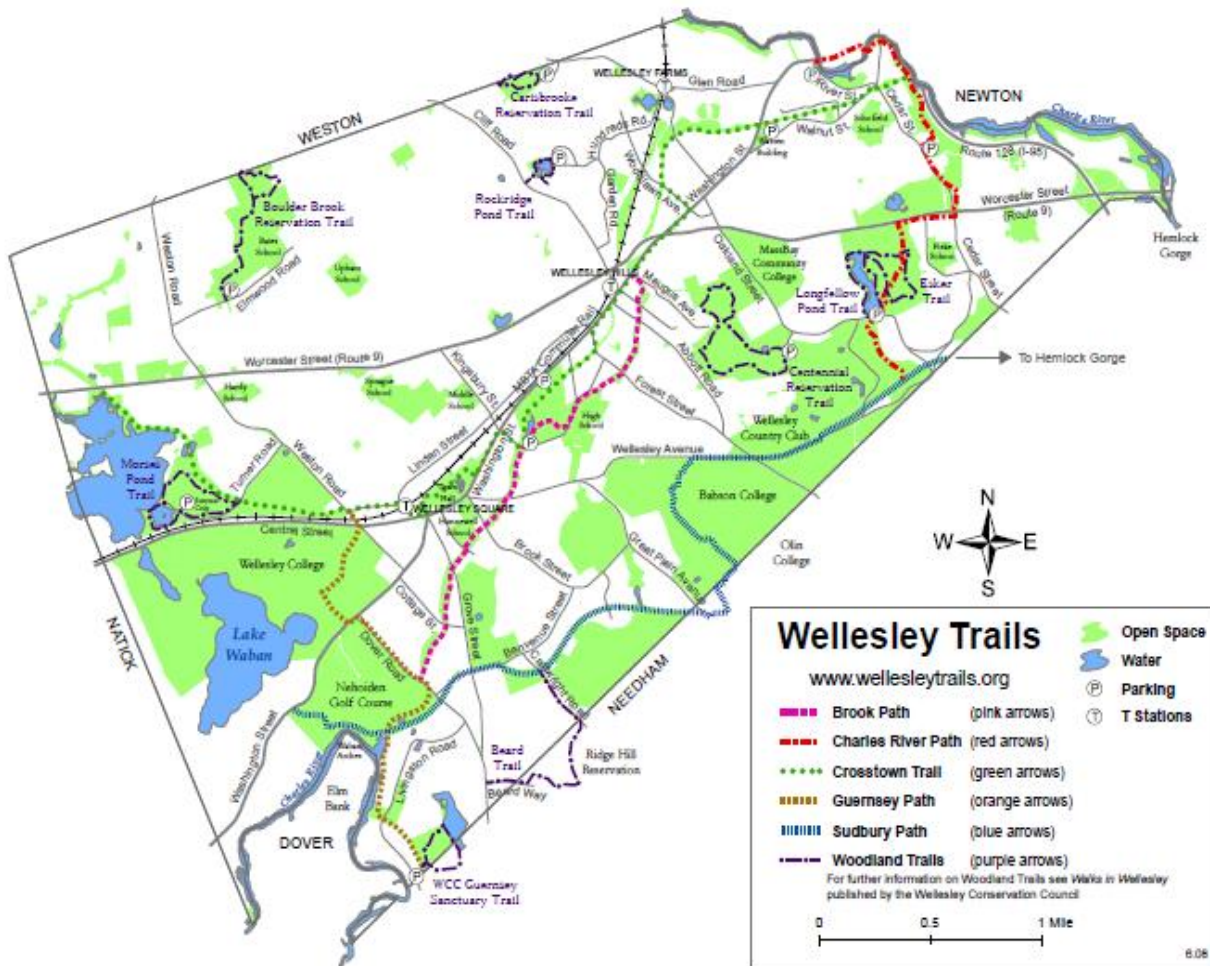


DPW sidewalk specifications

Wellesley Trails Committee

Beginning in 1997, the Trails Committee has been establishing a growing off-street network of recreational trails that improve the walking experience in Wellesley. Today, over 25 miles of trails connect various neighborhoods in Wellesley, largely through the efforts of volunteers supported by the Department of Public Works (see Figure 3).

Figure 3: Wellesley Trails



Keeping Us Moving: Operations & Maintenance

The following policies govern the maintenance of Wellesley's walking facilities.

D.P.W. Highway Program

The Highway Division of the Town's Department of Public Works is responsible for the maintenance, repair and upkeep of all Town sidewalks to provide for safe pedestrian traffic. This includes cleaning catch basins; sidewalk crack sealing, resurfacing and repair; winter snow removal, salting and sanding; and installation of new traffic control signs.

For winter maintenance, the Highway Division is responsible for ensuring safe pedestrian access during the winter. This includes plowing 60 miles of sidewalks, sanding or salting sidewalks, and removing snow and ice from commercial areas and in front of churches and funeral homes.

What's Missing: Needs Assessment

The first step in creating a list of strategies for this Plan was to assess the existing Town policies, regulations, and practices regarding walking to determine if and where improvements could be made. This included a comparison to best practices to determine where some strategies might be missing.

Comparison of Existing Policies to Best Practice

Figure 4 below compares Wellesley's existing policies and regulations to some of the best practices in pedestrian planning that are observed nationally, including an assessment of basic safe minimums that should be adhered to in all instances.

Figure 4: Policy Evaluation

Existing Policy or Regulation	Best Practice
<u>Subdivision Regulations</u>	
<ul style="list-style-type: none"> Section V.B: Street width of at least 40-feet, preferably 54-feet 	<ul style="list-style-type: none"> Numerous studies show that the percentage of pedestrian crashes that are fatal jumps dramatically as roadway widths approach and exceed 40-feet. To maintain safety, streets <i>should never exceed 40-feet</i>.
<ul style="list-style-type: none"> Section V.B: Street line radius at least 40-feet 	<ul style="list-style-type: none"> The wording of this regulation is not clear, but <i>curb</i> line radii at most intersections with a standard shoulder or on-street parking do not need to exceed 10-feet to create sufficient turning radius from centerline to centerline for all but the largest trucks (WB-50). Greater radii only serve to increase turning speeds, threatening pedestrians on the parallel crossing.
<ul style="list-style-type: none"> Section V.B: Minimum distance of 300-feet between intersections 	<ul style="list-style-type: none"> For ideal pedestrian connectivity, the <i>maximum</i> distance between intersections should be 300-feet.
<ul style="list-style-type: none"> Section VII: "Slanted curbing" required "where crosswalks are present" 	<ul style="list-style-type: none"> Regulation out-of-date. The Americans With Disabilities Act requires the installation of a compliant crossing ramp at all crosswalks. No requirement for crosswalks: there should be a crosswalk on each leg of every street intersection.
Non-existent	<ul style="list-style-type: none"> Requirement for sidewalks on each side of each street. Requirement to ensure street connections at least every 300-feet on all master parcel borders.
<u>Project of Significant Impact Regulations</u>	
<ul style="list-style-type: none"> Pedestrian safety plan 	<ul style="list-style-type: none"> No written criteria for the Board of Selectmen to determine pedestrian safety. Criteria should include minimizing curb cuts, reducing crossing distances, reducing crossing delay, ensuring minimum pedestrian-scale lighting, ensuring safe driveway sightlines, etc.

<u>Design Review Board Guidelines</u>	
• Pedestrian-oriented signing	• Best practice.
• Maximum 5% pedestrian walkway slope	• Best practice
• Handicapped access to buildings	• Standard practice. This should include at-grade pedestrian access to avoid unnecessary HP ramps.
Non-existent	<ul style="list-style-type: none"> • Ensure that exit doors do not swing onto public sidewalks. • Ensure minimum sight triangles clear of structures or landscaping from 3 to 9-feet above the ground at driveways/garage ramps.
<u>Street Acceptance Policy</u>	
Non-existent	• Condition that any accepted street include at least one sidewalk constructed to DWD specifications.
<u>Curb Cut Policy</u>	
• Commercial driveway width	• 20-feet is suggested, but there is no maximum. To ensure minimal pedestrian conflict, one-way driveways should be limited to 14-feet and two-way driveways to 20-feet.
• Residential driveway width	<ul style="list-style-type: none"> • 12-foot single driveway limit is good practice. • While the 20-foot double driveway limit is appropriate, no double residential driveways should be permitted without a hardship.
• Driveway angle	<ul style="list-style-type: none"> • No angle to the roadway is required, but curb radii of 5-feet minimum and 30-feet maximum are suggested. To ensure safe turning speeds for pedestrian safety, no driveway radii should exceed 5-feet. • Corresponding driveway angles should not exceed 20-degrees from perpendicular to the roadway.

Critical Needs

As part of formulating a set of walking strategies for the future, it is important to understand where some of the most critical needs existing today. To develop an understanding of some of the most pressing pedestrian facility problems in Wellesley, three sources were used: a review of past pedestrian-related documents, consultation with Town staff, and a needs assessment public workshop.

The workshop was held on February 25, 2009 to consult the residents of Wellesley on pedestrian-oriented issues within town and involved members of the Task Force, Town staff, the Planning Board, and the general public. A number of interactive methods were employed to provide a structured forum for voicing concerns in a constructive manner.

Priority Voting Exercise

Upon arrival each participant was asked to prioritize their concerns through a trade-off voting survey, where participants voted for the most important of nearly forty issues identified in Wellesley, but each participant had only twelve votes. Voting was open, allowing each person to place one vote on twelve issues, all twelve votes on one issue, or anything in between. The top issues identified in the priority voting exercise can be summarized as safety of pedestrians, continuity of the walkway network, and community awareness of pedestrians and their needs. The outcome of this exercise is summarized below in .

Figure 5 Results of Trade-Off Voting on Pedestrian Issues

Rank	Votes	Statement
1	28	Intersections are difficult or dangerous to cross
2	23	Sidewalks are discontinuous/inconsistent
3	20	Drivers are unaware of pedestrians
4	18	Drivers are inconsiderate
5	17	Need more people walking
6	16	Traffic is too fast
7	15	Lack of connections between streets with sidewalks and trails
8	14	Not enough sidewalks
9	10	Walkways are not well maintained
10	9	Destinations are too far apart to walk
11	9	Feel vulnerable or exposed
12	8	Too much traffic
13	7	Poor snow removal
14	6	Walkways are dangerous
15	5	Sidewalks are poorly designed
16	3	Walkways are not wide enough
17	3	Lack of sidewalks near schools
18	3	Walkways are obstructed by signs, poles, trees, etc.
19	3	The wait to cross is too long
20	2	Poor lighting
21	1	Need more pedestrian signage
22	1	Need more places to sit
23	1	More street trees
24	1	Lack of direct routes
25	1	Too noisy

Interactive Workshop

Several tables were set up for participants to sit around, each with a detailed large format map of Wellesley's on- and off-street walking networks. Following a review of the planning progress and study goals, each table was given a number of blue markers. Using the blue marker, each person was asked to draw a line along a route they walk often and are very familiar with or a route they are familiar with but don't often walk because of concerns. This engaged every participant in the room, sparked conversation among the tables and focused their energy on areas they know well. It also distributed the comments around town, providing information from many neighborhoods.

People were then given a green marker to identify features along their walk that attract them to the route or that they appreciate, such as “a beautiful tranquil setting” or “a great wide sidewalk.” Asking participants to consider features of the walking environment that make it an appealing setting was intended to help them prepare for discussion of what features they dislike. The most common positive comments were around the quality and beauty of the Wellesley trail system.

Identifying the needs of the pedestrian environment in Wellesley was the substance of the final portion of the workshop. Contributors were given magenta markers and asked to identify locations and features along their route that they disliked or believed to be missing, such as “dangerous intersection” or “sidewalk ends.” The concerns voiced during this session closely resembled the outcome of the priority voting exercise with the completeness of sidewalks as the most frequent comment, followed by lack of driver awareness and the safety of intersections.

Participants’ written comments helped provide guidance to the Task Force for establishing the sets of strategies in this Plan. All mapable comments were translated onto a GIS map, which can be found as an attachment to this Plan. A blow-up of those comments near Wellesley Square is included in Figure 6 as an example. The following section describes the primary comments received through the group mapping exercise at the public workshop, as well as other areas in need as identified by Town staff and earlier planning documents.

School Access Needs

All participants who discussed access to schools agreed that better sidewalks and crosswalks were needed on all roads leading to schools – generally within a reasonable walking distance. Key missing locations included:

Fiske School:

- Missing section of sidewalk closest to the school on Sheridan Road.
- Missing section of sidewalk closest to the school on Madison Road.
- Lack of crosswalk on Cedar at Hastings.



Lack of Cedar/Hunnewell Street crossings

Schofield School:

- While no sidewalks are technically missing on school approaches, the school is very isolated from many nearby neighborhoods to the north, west and south, with only one unlighted forest path connecting to the west.
- Walnut Street is missing a sidewalk on the south side.



Route 9 pedestrian crossing at Kingsbury St.

Wellesley Middle/Sprague Elementary:

- The Route 9 Crossing is treacherous, with poor sidewalk connections on the north side to residential neighborhoods.
- The Kingsbury Street sidewalk in front of the school needs improvement.

Figure 6: Pedestrian Needs in Wellesley Square



Hardy School:

- Weston Road sidewalks are narrow with little separation from heavy vehicle volumes.
- Crossings underneath Route 9 are poor and not well-accommodating.

High School:

- State street sidewalk simply ends as it approaches Washington Street, the point of greatest vehicle activity.



Sidewalk/underpass on Weston Rd. at Hardy School

Sidewalk Needs

Missing sidewalks or needed sidewalks were the most commonly cited concern at the workshop.



Missing sidewalks on Benvenue at Brook

Benvenue Street:

A heavily used road, this street is missing sidewalks on either side between Brook and Lanthrop and between Grove and Dover.

Resolving pedestrian access issues along Benvenue is made more complex due to its designation as a Scenic Road. According to Wellesley's Scenic Road Regulations, any improvements to pedestrian facilities that

might require new paving, repair, construction, or any impact to bordering trees or stone walls would necessitate a public hearing and the approval of many Town Boards and Commissions. Essentially any changes to the existing street require the additional steps of a hearing process and written Town approvals.



Discontinuous sidewalk on Brook

Brook Street:

- Sidewalks are missing in stretches east of Benvenue.
- The lack of sidewalks at Great Plains Road is problematic given the demand to and from the racquet and swim center.
- The sidewalk alternates from one side of Brook to the other west of Benvenue.



Brook at Great Plain

Linden Street:

The character of Linden Street changes significantly along its length, from suburban residential, to commercial, and even to semi-rural residential. The Town is actively installing and improving sidewalks and crosswalks along its length, with notable improvements east of Kingsbury and in Linden Square. However, key connections remain problematic:

- The sidewalk does not meet ADA minimum clearance on the south side just east of Linden Square.
- East of Kirkland, the lack of a north side sidewalk forces many pedestrians to cross at unmarked crossings due to a lack of an alternative route along Route 9.
- Linden's intersection with Weston Road remains problematic, with poor sightlines over the rail bridge.



Linden at Kirkland Circle



Confusing warning signs on Grove

Grove Street:

Grove Street has been a source of concern for many years, with the Town working to improve walking along this key residential corridor. However, many issues remain:

- Warning signs have been added at many crossing, but treatment is inconsistent, with some crossing receiving advanced warning signs, some with just crosswalk signs, and some with no signs.
- The Grove & Dover intersection has no crosswalk and poor visibility.
- The sidewalk is discontinuous at several locations, such as south of Benvenue.
- A stretch of sidewalk near Fuller Brook is at the street grade, providing no protection from traffic or snow and ice.

Other Missing or Poor Sidewalks of Note:

- The sidewalks along **Route 9** are missing in many place. Where they exist they are minimal, providing little separation from high-speed traffic.
- **Great Plain Ave** sidewalks need improvement.
- **Wellesley Ave** sidewalks need improvement, and they are entirely missing east of Alden Road near Babson College.
- **Abbott Road** sidewalks are intermittently on one side, the other, or both.



Grove Street at Fuller Brook

- **West Road** sidewalks are too narrow.
- **Livingston Road** sidewalks end abruptly.

Crossing Improvements:

While the Town has made many improvements to signalized and unsignalized crossings throughout Wellesley, several key needs remain:

- **Bacon & Central/Rt. 135** is a high-speed intersection with low visibility of pedestrians due to the railroad overpass. A safe crossing of Rt. 135 is needed.
- As noted earlier, **Route 9** presents a significant barrier, with few available crossings. All underpasses have narrow sidewalks, and surface crossings are difficult. In addition to Kingsbury, surface crossings at Oakland and Dearborn need improvement for the sake of pedestrians.
- **Route 9 & Weston Road** inserts a small interchange into the Wellesley Fells commercial area at the heart of residential neighborhoods served by the Hardy School. The resulting intersection north of Route 9 is very unsafe for pedestrians, with large curb cuts and several slip lanes.
- As noted above, the **Grove & Dover** intersection has no crosswalk and poor visibility.
- As noted earlier, the **Linden & Weston** intersection is compromised by poor sightlines and heavy vehicle volumes.
- The primary intersection in Wellesley Square, **Washington, Central & Grove**, poses a



Route 9 over Weston Road



Linden Street & Weston Road



Waiting at the Washington, Central & Grove crossing

significant barrier to pedestrian circulation. Not only is pedestrian delay significant when waiting for the push-button actuated crossing cycle to initiate, but the crossing interval itself is minimal, giving the slowest walkers barely enough time to cross.

Wellesley Square: Fixing the “Gap”

As identified in a 1998 land use and market study of Wellesley Square, a critical need within the square was bridging the gap between sub-sections of the square that has been created by the unorganized open space, roadways, and parking surrounding Post Office Square.

While that study recommended a “Village Green” to transform and rationalize the space, the area remains unchanged and still problematic today. Three key aspects greatly impact pedestrian circulation here at the heart of Wellesley Square:

- **The Post Office** – the circle in front of the post office hosts mail patrons, Town Hall patrons, commuter rail riders, and visitors seeking the adjacent open spaces. These conflicting purposes are met both by car and on foot, creating a difficult environment for walkers given the large expanse of roadway that comprises the circle.

- The Parking Lot – the visitor parking lot near the commuter rail station attracts a steady amount of traffic through this space. The parked and circulating cars serve as a barrier detracting from the nearby walking environment.
- Railroad Ave. – this remnant roadway that bisects the space serves only redundant circulation purposes, yet it wreaks havoc on the pedestrian experience by creating unnecessary road crossings, confused operations near the post office circle, and particularly dangerous crossings near Crest & Central.



Pavement dominates at the Post Office & Railroad Ave.

Development of a Vision for Walking in Wellesley: A Vision Statement

The Walkways Task Force was created by the Planning Board and the Planning Board's staff to represent a broad array of Wellesley's residents. It comprised members of Wellesley's boards and commissions, its staff, and advocacy organizations, as well as concerned residents. Each member had their own personal perspective on walking in Wellesley, but each recognized the importance of improving the overall environment for pedestrians that was reflected in the needs assessment described above.

The Task Force drew upon the input of workshop attendees and each member's represented stakeholders to inform the development of a vision statement for the Plan. Over the course of three meetings, the vision statement (see image) was developed to help provide an encompassing statement for the purpose, need and goals of the Pedestrian Plan. While not a necessary outcome of this process, a vision statement is intended to provide a positive statement that helps to unify participants in a process around a common theme.

"We endeavor to preserve neighborhood character and a high quality of life in Wellesley while encouraging a healthy and active lifestyle by sustainably expanding mobility options for all residents, improving personal safety, promoting walking, and supporting local commerce."

This vision statement represents a complete understanding of the often competing yet complimentary interests surrounding Wellesley's walking environments. The Task Force recognized the importance of preserving the high quality environments in Wellesley. It saw the value of recreational opportunities and the impact that they – and walking in general – could have on people's health. All were very concerned about promoting safety, especially among youth. The Task Force also recognized that walking environments help local commerce by extending the range and comfort of visitors to its squares. While many other words might be used to describe this vision, this statement comes from the members of the Task Force and the work they put into this process.



TOWN OF WELLESLEY PLANNING BOARD

WELLESLEY WALKS

A Comprehensive Pedestrian Program

CHAPTER FOUR

**What We Can Do:
Goals, Objectives & Strategies**

November 2009

Chapter 4. What We Can Do to Improve Walking: Goals, Objectives & Strategies

Building upon the foundation of prior planning efforts as well as this vision for the Plan, a list of goals was developed. This list was intended to help focus the products of the Plan. Several objectives were then developed in order to relate these goals to specific outcomes. It is intended that these objectives serve as the operational policy guidance for stakeholders to begin implementing the recommended strategies. The goals are listed in Column A and the corresponding objectives are listed in Column B of below.

The goals and objectives established for this study exhibit an awareness of the connection between a walkable Wellesley and the overall well-being of the community. Generally, this plan is intended to preserve and enhance the experience of living, working, and playing in Wellesley.

Figure 7 Pedestrian Plan Goals and Objectives

	Column A <i>Pedestrian Plan Goals</i>	Column B <i>Pedestrian Plan Objectives</i>
1	Preserve & improve the quality of life	<ul style="list-style-type: none">• Increase the attractiveness of the walkway network, through design and programming that is sensitive to the local context of each street• Reduce traffic volumes to improve the walking experience• Reduce vehicular speeds in residential areas and shopping districts
2	Preserve economic vitality & support well-connected, vibrant business districts	<ul style="list-style-type: none">• Avoid compromising pedestrian needs in retail districts• Improve access to retail districts by all forms of transportation• Improve the appeal of walking in retail districts
3	Maintain community & neighborhood character	<ul style="list-style-type: none">• Accommodate users of all abilities on the existing & future walking network• Promote consistent high-quality, context-sensitive designs for walking
4	Improve community connectivity, cohesion & communication	<ul style="list-style-type: none">• Connect gaps in Wellesley's existing walking network• Encourage walking within and between neighborhoods• Preserve ability to circulate by all forms of transportation
5	Preserve & enhance a healthy & active lifestyle	<ul style="list-style-type: none">• Educate residents on the ways walking benefits their well-being• Encourage greater use of recreational trails• Encourage walking and biking to & from school• Encourage walking between businesses
6	Promote safety for all	<ul style="list-style-type: none">• Increase safety for pedestrians at vehicular crossings• Maintain & enhance pedestrian safety along all roadways in Wellesley

7	Encourage a sustainable approach to the environment	<ul style="list-style-type: none">• Discourage idling vehicles at schools & other pick-up/drop-off locations• Discourage vehicles circling in business districts
8	Expand community access through all forms of transportation	<ul style="list-style-type: none">• Improve walking connections to transit and parking• Incentivize walking as an alternative to driving to business districts

Providing a superb walking environment is not simply paving a path and painting lines across the street, it requires consideration of elements not traditionally thought of as “pedestrian,” such as the type of land use, the design of buildings, or the location of parking. Creating and maintaining the ideal pedestrian experience is not the domain of any single entity but rather the concerted effort of many stakeholders with different interests, levels of authority, and spheres of influence. Unless pedestrian needs are comprehensively coordinated, the positive actions of one stakeholder may be to the detriment of others.

This chapter recommends a series of strategies for different stakeholders to enact for mutual benefit in order to provide for the needs of pedestrians within Wellesley. These strategies are organized around the set of objectives established for the Plan by the Task Force. Each objective has at least one stakeholder and at least one strategy. It may be that many stakeholders can enact a single strategy such as “encourage staff to walk to nearby stores.” Alternately, one stakeholder may be able to implement many strategies, such as “institute market based on-street parking pricing,” “incentivize landscaping,” and “promote infill development.”

These strategies form the basis of the Action Plan presented above in Chapter 1. Each strategy in the Action plan is described below. Additional details and technical specifications can be found in Appendix A.

Goal 1: Preserve and Improve Quality of Life

The Task Force felt it was important that any pedestrian strategy work to improve the quality of life for Wellesley’s residents. Three specific objectives became closely associated with this goal.

Objective 1A:

Increase the attractiveness of the walkway network, through design and programming that is sensitive to the local context of each street

Wellesley is a varied community with a rich fabric of streets and neighborhoods each unique in its own way. The Task Force recommends town-wide strategies that are locally based.

- **Strategy 1A1: Commission locally designed public art installations to be placed along walkways.** These installations can act simply as public art or utilitarian uses such as seating, wayfinding kiosks, mile markers along trails, etc. Their purpose is to enrich the walking experience and attract new walkers with pieces made by local artists.

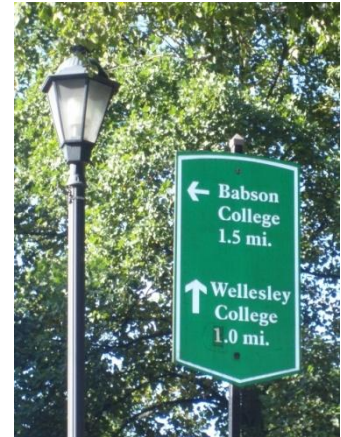
Lead Stakeholder: Trails Committee

- **Strategy 1A2: Incentivize private landscaping that enriches the pedestrian experience.** Similar to art installations, private landscaping is an attractive walking amenity that enriches the walking experience. This can be incentivized through seasonal Town awards or private sector awards recognizing exemplary designs, from an entity such as the Chamber of Commerce.

Lead Stakeholders: Board of Selectmen; Wellesley Chamber of Commerce

- **Strategy 1A3: Install pedestrian wayfinding signs on trails and sidewalks.** An essential part of encouraging walking is providing a clear set of directional signs to make the experience easier. Much like vehicular directional signs, pedestrian wayfinding signs help eliminate confusion and reduce anxiety over the length of a trip.

Lead Stakeholders: Department of Public Works; Trails Committee



Vehicular wayfinding sign

- **Strategy 1A4: Organize semi-annual local trail litter clean up events.** To help galvanize community support for Wellesley's trail system and to encourage new users, clean-up events can be a fun way to maintain the system. By including competitions with rewards or activities, greater participation can be attracted.

Lead Stakeholder: Trails Committee

- **Strategy 1A5: Program additional public space such as plazas, greens, and pocket parks.** Public space stimulates a great deal of pedestrian activity and provides a forum for the spontaneous interaction of individuals. The Town should try to develop as many other public spaces throughout Wellesley to enhance the town's walking environment.

Board of Selectmen; Department of Public Works

- **Strategy 1A6: Provide historic informational plaques along walking routes and at destinations.** Much like art installations and good landscaping, historic plaques provide interesting information that increases the value of place to the audience and makes walking a more enjoyable experience.

Lead Stakeholders: Historical Commission; Natural Resources Commission

- **Strategy 1A7: Require installation of landscaping and trees in all private reconstruction, per DPW specifications.** While trees are a standard part of a DPW sidewalk specification, they are not specifically required. DPW can modify its specifications to require that future landscaping be installed, providing greater pedestrian amenity.

Lead Stakeholder: Department of Public Works

Objective 1B:

Reduce traffic volumes to improve the walking experience

Pedestrians are less likely to walk on a street where they are proportionately outnumbered by cars. Reducing the proportion of travelers in cars helps improve the comfort of walking.

- **Strategy 1B1. Enact a transportation demand management plan requirement for all new development.** Transportation demand management plans establish clear practices for reducing the number of vehicle trips a development is likely to generate. TDM efforts can include a wide range of programs such as parking pricing, universal transit passes, car-sharing, and ride-sharing designed to incentivize the use of alternatives to the car.

Lead Stakeholders: Board of Selectmen; Planning Board

- **Strategy 1B2. Explore granite curb installations throughout town.** Defined street edges help to discourage higher vehicle speeds as opposed to soft shoulders, especially on narrow roads where pedestrian safety is threatened both by speed as well as limited room to escape vehicles. New installations can be part of or independent of sidewalks and should consider cost, drainage, and local preferences.

Lead Stakeholders: Board of Selectmen; Planning Board

Objective 1C:

Reduce vehicular speeds in residential areas and shopping districts

Vehicle speed has been proven to directly impact pedestrians' feelings of safety and security. Given the pedestrian fatality rates climb exponentially with vehicle speed, the Town should be actively seeking ways to reduce vehicle speeds throughout Wellesley.

- **Strategy 1C1. Conduct additional speed enforcement in trouble locations.** While the Police Department actively conducts speed enforcement in areas known for speeding, they field many requests for enforcement on residential streets where higher speeds are perceived but not necessarily realized. Nonetheless, the Task Force encourages the Department to maintain its vigilance and return to known speeding locations as frequently as possible.

Lead Stakeholder: Police Department

- **Strategy 1C2. Create narrower streets and travel lanes through paint or construction.** Narrower streets, or even just the perception of narrower lanes, induces slower driving. This "friction" effect is one of the most effective traffic calming methods, and the most cost-effective friction method possible is the narrowing of lane lines in paint. While a longer term goal of physical narrowing should be maintained, paint treatments can greatly improve the pedestrian environment on adjacent sidewalks.

Lead Stakeholder: Department of Public Works



Narrowed lane markings

- **Strategy 1C3. Encourage buffers to create a sense of "visual friction."** Another cost effective form of traffic calming is through the placement of objects along the roadside with visually create friction and reduce vehicular speed. In business districts, this can be on-street parking, street trees, walkway furniture, etc. In residential areas, this can be policies for full growth trees behind the sidewalk.

Lead Stakeholders: Department of Public Works; Design Review Board

- **Strategy 1C4. Install automated vehicle speed warning radar signs.** Of growing popularity in the United States, these permanent radar signs (typically solar powered) make drivers aware of when they are speeding with clear digital speed readings and a visual warning indication when they are speeding.



Automated speed warning sign

Lead Stakeholder: Police Department

- **Strategy 1C5. Install traffic calming in trouble locations, tailored to contextual setting.** Physical traffic calming devices are very popular for their effectiveness and permanence. Wellesley should consider continued installation of various devices throughout town. In business districts, appropriate traffic calming features can be required of new commercial construction and during any routine maintenance and resurfacing projects. In residential areas, a process for residents to request traffic calming should be established. When the need is verified, appropriate traffic calming features can be incorporated into routine maintenance and resurfacing projects. In other areas, appropriate traffic calming features can be installed at 'high risk' locations, such as around schools, playground, parks, etc.



Curb extensions on Laurel at Washington

Lead Stakeholders: Department of Public Works; Police Department

Goal 2: Preserve Economic Vitality and Support Well-Connected Vibrant Business Districts

In Wellesley, walkability is inherently tied to the success of commerce. The Task Force identified three key objectives that emphasize the importance of pedestrians, the need for better connectivity, and the value of appealing walking environments in Wellesley's squares.

Objective 2A:

Avoid compromising pedestrian needs in retail districts

The Task Force recognizes that the primary determinant of success in Wellesley's commercial districts is the number of pedestrians able to pass by merchant's doors, not the number of cars that drive by. Promoting pedestrian environments in Wellesley's squares is not only good for the environment, it's good for business.

- **Strategy 2A1. Consider pedestrian needs in all commercial site plan approvals.** The Town should take an active role in ensuring that pedestrian-accommodating environments continue to be a priority in its commercial districts by ensuring that new sites have safe, direct access from parking or the walkway network to and through the site. Walkways should be along desire lines with pedestrian scale lighting. The Town should also make it policy to carefully consider all trade-offs when balancing the needs of vehicles, pedestrians, bicyclists, and transit.

Lead Stakeholder: Planning Board

- **Strategy 2A2. Discourage or eliminate parking lots between building and pavement edge.** When parking is between the pavement edge and the building entrance, it serves as a strong deterrent for pedestrians by blocking pedestrian paths and emphasizing that driving is the most accepted mode of travel. Moving parking behind buildings provides the same access for drivers as if they were in the front while dramatically improving access for walkers and cyclists. This standard should become part of all site plan guidance in Wellesley.



Parking in front of CVS at Linden Square

Lead Stakeholders: Design Review Board;
Planning Board

- **Strategy 2A3. Maintain 8-15' unobstructed walking zone in commercial areas.** Large sidewalks in commercial areas improve the versatility of the public realm, allowing large volumes of people to pass through, providing places to meet and greet, and supplying space for public events and casual dining, while encouraging walking by making the pedestrian feel important and well served. Many of Wellesley's squares happen to have wider sidewalks in places, yet all have areas with 8-foot sidewalks that only have 5-feet of clear space or less. The Town should endeavor to maintain a higher standard than the current 8-foot DPW specification in its commercial districts.

Lead Stakeholders: Department of Public Works; Planning Board

- **Strategy 2A4: Provide clear unobstructed walking right-of-way in all parking lot designs and improvements.** As with virtually every trip, driving begins and ends with a walking trip. In commercial areas these trips often end in a parking lot, requiring shoppers to walk through a vehicle dominated space. Providing clear walkways through the parking lot designates space for the pedestrian to control. By doing so, supplemental shopping center trips can be taken on foot, and nearby residents might be encouraged to arrive by foot, helping to reduce vehicle trip-making. All parking lot site plan approvals should carefully consider multiple safe pedestrian walkways aligned on the primary desire lines.



Parking lot walkway in Linden Square

Lead Stakeholders: Planning Board; Design Review Board

Objective 2B:

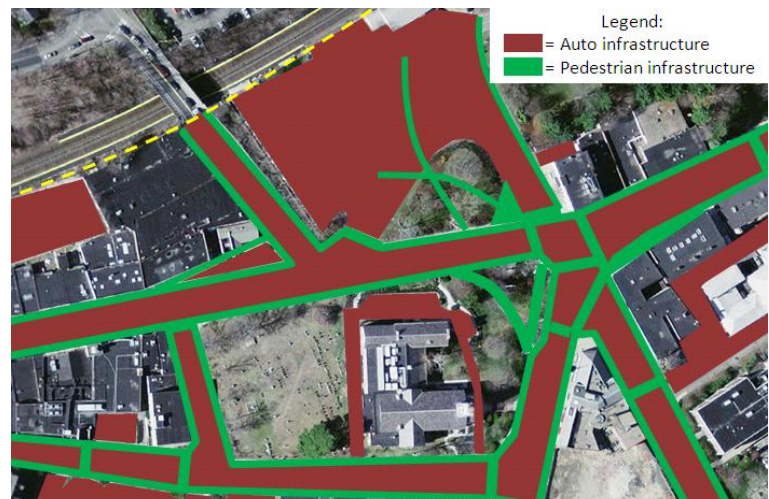
Improve access to retail districts by all forms of transportation

Building upon the excellent multi-modal resources contained in almost all of Wellesley's commercial districts, the Task Force acknowledged the limitations of non-vehicular connections between the districts and into residential neighborhoods, where walking and biking in particular face many obstacles. Seeking to shift many of those short trips out of the car, the Task Force discussed this objective at length.

- **Strategy 2B1: Adopt 'Complete Streets' guidelines.** Complete Streets provide designated space for all users on the road (drivers, cyclists, pedestrians, disabled individuals, transit riders). Adopted as new policy by the Massachusetts Highway Department, many municipalities in the United States are also ensuring that all modes are considered in the design and redesign of streets. Wellesley too should adopt a set of complete street guidelines in its standard roadway specifications, as promulgated by both the Planning Board as well as the Department of Public Works.

Lead Stakeholders: Department of Public Works; Board of Selectmen; Planning Board

- **Strategy 2B2: Allocate road space primarily to the benefit of walkers and cyclists within retail districts.** Regardless of Wellesley's success at making great walking environments in its commercial squares, cars dominate the space in each district. Even on a busy shopping day when walking pedestrians may outnumber cars, the vast majority of street space and land area is dedicated to the automobile.



Comparison of vehicle space to pedestrian space in Wellesley Square

Numerous retail studies show that strolling pedestrians are the source of most business in squares like Wellesley's, but the majority of Wellesley's infrastructure is oriented to the car, similar in concept (if not design) to strip malls on arterials. While it is clear that pedestrians do not need as much space and that most access to the squares is by car to begin with, Wellesley has absolutely no economic reason to expand roadway capacity in its squares. Acknowledging that many compromised walking and biking environments continue to exist in these squares today, the Town may want to establish new policy that halts further road capacity expansion (physically, and through signal operating changes) and instead actively begin focusing any future roadway maintenance and repair efforts on converting some space to biking and walking facilities.

Lead Stakeholders: Board of Selectmen; Department of Public Works

- **Strategy 2B3: Clarify bicycle rights to the roadway for motorists.** Many motorists behave aggressively towards on-road bicyclists because they are not aware that bicycles are traffic and have as much right to use the road as a motor vehicle. The Town should clearly advertise the legal definition of a bicycle and its operations on its website and through the Police Department

Lead Stakeholder: Police Department

- **Strategy 2B4: Clearly sign areas where biking on sidewalk is allowed.** People who are not comfortable in the road will want to ride on sidewalks where this is allowed today, outside of commercial districts.

Lead Stakeholder: Department of Public Works

- **Strategy 2B5: Clearly state biking on sidewalk regulations.** Those that choose to bike on the sidewalk must be informed of their responsibilities to avoid pedestrians and dismount in commercial districts.

Lead Stakeholder: Police Department

- **Strategy 2B6: Create a town-wide bicycle master plan.** A bicycle master plan should take a comprehensive look at how the bicycle can be integrated into the town's transportation network as a realistic alternative to the car for many trips, especially to squares, school, and commuter rail stations.

Lead Stakeholder: Planning Board

- **Strategy 2B7: Create sidewalk widths which reflect the level of potential pedestrian activity.** Sidewalks that are too small for their level of activity create conflicts between pedestrians, forcing people to be delayed or even walk in the road. In areas with restaurants, a wider sidewalk is necessary for lingering, greeting, and even queuing. The Town should work to establish appropriate guidance for sidewalk widths depending on their location, above and beyond the minimum specifications of the Department of Public Works.

Lead Stakeholders: Planning Board; Department of Public Works

- **Strategy 2B8: Expand bike parking options.** Bicycle parking is a key complement to the pedestrian environment, as bikers are very likely to be attracted to walk in areas where they can find an easy place to lock up their bicycles. Bicycle parking is an inexpensive streetscape amenity as well. The Town should invest in a comprehensive bicycle parking program that includes frequent short-term racks in squares and covered bike racks at key destinations, such as schools and commuter rail stations.

Lead Stakeholders: Department of Public Works; Planning Board



Bicycle parking in Corvallis, WA

- **Strategy 2B9: Introduce concurrent crossing signals at appropriate locations.** Wellesley's pedestrian crossings today all operate on what is known as an "exclusive" phase with push-button actuation. Generally recognized as the highest form of street crossing protection possible, the practice has several negative effects in a mixed-use, dense, and walkable community like Wellesley. The foremost problem is delay. Due to the need to actuate a button and then wait for the phase to be introduced into the traffic signal, pedestrian waiting delay can be lengthy (with the exception of Wellesley's successful pedestrian-only signals that located near schools, which actuate immediately). Repeatedly, pedestrians can be observed crossing on gaps in traffic before their crossing indication comes up. This is especially true when traffic has a green and pedestrians can easily cross the crossing street parallel to the traffic. This common practice is called a "concurrent" crossing. Unfortunately, it is not supported by Wellesley's traffic signals, resulting in an extremely high percentage of non-compliance with the signal by pedestrians. If Wellesley is serious about accommodating walking, it should recognize that concurrent crossings are standard in its walkable squares – similar to any walkable downtown – by re-wiring signal controllers to provide this concurrent crossing, greatly increasing compliance as well as driver awareness of pedestrians.

Lead Stakeholders: Board of Selectmen; Department of Public Works

- **Strategy 2B10: Introduce leading pedestrian interval crossing signals.** If the Town implements concurrent crossings, it also should seek to implement leading pedestrian intervals at each concurrent crossing. A leading pedestrian interval (LPI) allows pedestrians to begin concurrent crossings a few seconds before the parallel traffic gets a green signal. This enables pedestrians to establish a presence in the crosswalk prior to vehicles beginning to move, especially where turns across the crosswalk are common.

Lead Stakeholders: Board of Selectmen; Department of Public Works

- **Strategy 2B11: Place buildings near the street with minimal setbacks.** Buildings that front the sidewalk attract pedestrians while buildings separated by a parking lot or a large lawn discourage pedestrian access. The Town



Front yard parking at Linden Square

should make clear policy for all commercial district buildings to have their parking in back.

Lead Stakeholders: Planning Board; Design Review Board

- **Strategy 2B12: Provide an online bike parking request tool.** As part of the Town's effort to increase bicycle parking in its commercial districts, an easy and effective strategy for locating racks cooperatively is to provide an on-line request tool for residents and business owners. Allowing the community to identify locations where they would like to see bike parking is an efficient way of directing resources and encouraging bicycling.

Lead Stakeholders: Department of Public Works; Trails Committee; GIS Department

- **Strategy 2B13: Provide bicycling facilities, especially in areas with high automobile, bicycle or pedestrian volumes.** In areas with high volumes of traffic and average speeds above 20mph, recommended street design policies nationwide state that bicycles, vehicles, and pedestrians should each have clearly designated travel space to minimize conflict. With the exception of slow square core areas, busy multi-modal stretches in Wellesley – such as the majority of Washington Street – should have designated bike lanes to help warn through motorists and crossing pedestrians of bicycles.

Lead Stakeholders: Board of Selectmen; Department of Public Works

- **Strategy 2B14: Re-evaluate on- and off-street parking regulations to maximize access and minimize circling for parking.** A certain percentage of cars on Wellesley's commercial streets are seeking convenient on-street parking. On average, it is estimated that about 30-percent of cars in similar districts are seeking parking. Therefore, many communities have implemented demand-responsive parking regulations and/or on-street pricing to force sufficient turnover to ensure that motorists can find a space on any block face they seek to park on. Typically, this means that the most valuable spaces – those at the front doors of commercial shops – are priced higher than those where employees or longer-term visitors may be willing to walk to and from – those on side streets or in off-street lots. With these parking management principles in place, communities can relieve small commercial uses from their off-street parking requirements and the substantial cost of building or leasing parking (especially for change-of-use applicants) that these requirements impose. This in turn enables many small-scale shops and restaurants to survive – especially given the competition from large chains and “big box” stores with “free” parking in less walkable areas.

Lead Stakeholder: Planning Board

- **Strategy 2B15: Remove push-buttons for crossing signals.** As noted above, many pedestrians do not comply with crossing indications at Wellesley's signals, mostly because of the significant delay required before the “walk” indication is activated. In walkable districts similar to Wellesley's squares, communities throughout the United States have removed their push-buttons and simply ensured that the “walk” phase comes up in every signal cycle, which greatly reduces overall pedestrian crossing delay and creates a sense of assurance that also leads to dramatic jumps in signal compliance. In successful squares like Wellesley's, it is appropriate to provide this level of safety and compliance given that vehicular delay is already at its maximum.

Lead Stakeholders: Board of Selectmen; Department of Public Works

- **Strategy 2B16: Time traffic signals primarily for the convenience of walkers and cyclists while maintaining acceptable level-of-service for vehicles.** Signals that require pedestrians to wait for extended periods of time create significant barriers to pedestrian traffic by adding delay to a trip that must cross the street, often discouraging walking even short distances. The long wait times also encourage pedestrians to act in an unpredictable and unsafe manner, with many crossing the street against the signal or away from the protection of the crosswalk. Today, Wellesley operates several signals that have a long cycle lengths – most notably at the intersection of Washington, Grove, and Central. At these signals, the average pedestrian must wait over a minute for a walk indication, and even longer if the push button hadn't been activated already. These cycle lengths are designed for processing vehicles and reducing queue lengths, but they are simply inappropriate in a walkable district. Modern signal design in busy downtown locations has defaulted to short cycle lengths that have no less capacity for vehicles but increase capacity significantly for pedestrians. Wellesley's signals should be so retimed.

Lead Stakeholders: Board of Selectmen; Department of Public Works

Objective 2C:

Improve the appeal of walking in retail districts

- **Strategy 2C1: Amend zoning by-laws to allow outdoor dining establishments' use of public space.** Wellesley's appealing squares have at their heart an appealing outdoor eating area associated with a café or restaurant. These locations attract walkers and contribute to the feeling of a friendly walkable zone. Today, each request for outdoor dining on public space requires case by case Public Works approval where the criteria are unclear. If Wellesley wishes to expand outdoor dining, its zoning code should be modified to formalize a review process that all applicants can understand and abide by.



Sidewalk dining on Washington at State

Lead Stakeholder: Planning Board

- **Strategy 2C2: Designate a "furnishing zone" between walkway and street.** A valuable strategy used in commercial districts worldwide is to establish a formalized "furnishing zone" that acts as a buffer between vehicles and pedestrians. This zone accommodates typical furnishings, such as benches, trash receptacles, street lights, and parking meters, as well as private café tables and tent signs. Wellesley should develop clear policy and regulations for a "furnishing zone" in commercial districts.



Inconsistent furniture placement in Wellesley Square

Lead Stakeholders: Department of Public Works; Wellesley Chamber of Commerce; Board of Selectmen

- **Strategy 2C3: Explore road diets to increase sidewalk width for outdoor dining.** In areas where sidewalks are not wide enough to accommodate outdoor seating the option of reducing travel lanes, removing parking, or even removing a travel lane should be considered in order to expand the sidewalk. Typically termed a “road diet,” many communities have narrowed travel lanes, removed shoulders, and increased sidewalk widths in order to slow traffic and increase walkability. Given the clear orientation towards walking in many of Wellesley’s squares, the excessive pavement width in key locations is prime for a road diet that increases space for pedestrians and outdoor dining. These include: the intersection of Washington, Grove and Central; Central, Crest and Railroad; Weston and Central; Washington and Cliff; Washington and State; Weston at Route 9; Linden in Linden Square; and many other locations.



Expanse of roadway at Washington & Central

Lead Stakeholders: Planning Board; Department of Public Works

- **Strategy 2C4: Develop high-visibility crosswalks uniquely designed for business districts.** Many communities have installed unique crosswalk designs in commercial districts to emphasize pedestrian safety while establishing an identity for the area. Going beyond brick and stamped concrete, many examples include colored paving or inlaid patterns. Such crosswalks can be very attractive branding for the business districts, providing visitors with memories of the unusual crosswalks. All should include bright reflective materials and a width of no less than 10-feet.



Colored crosswalks in Ventura, CA

Lead Stakeholders: Board of Selectmen; Department of Public Works; Planning Board; Wellesley Chamber of Commerce

- **Strategy 2C5: Encourage businesses to conduct outdoor activities.** Outdoor activities generated by businesses add to street life and increase the appeal of walking in commercial areas. Motorists and pedestrians alike are drawn to activity, and Wellesley’s commercial businesses should be encouraged and facilitated to bring activity onto the sidewalk in all of Wellesley’s commercial districts.

Lead Stakeholders: Board of Selectmen; Wellesley Chamber of Commerce

- **Strategy 2C6: Hold street festivals in business districts and neighborhoods.** Some of the most dramatic shifts from driving to walking in the world have happened as a result of “take back the street” festivals, where entire communities realized the value of walking when forced to get around by no other means than their feet. Street festivals help bring

non-traditional walkers out to the streets and can be regular weekly occurrences associated with farmers' markets or arts fairs.

Lead Stakeholder: Wellesley Chamber of Commerce

- **Strategy 2C7: Incentivize maintenance of sidewalk space and amenities in front of individual businesses.** One of the greater municipal disconnects occurs between the municipality and businesses over the public space in front of the businesses. From the business owner's perspective, the street and sidewalk are the Town's responsibility – paid for entirely by tax levies. From the Town's perspective, limited taxes cannot begin to provide the level of quality and maintenance desired by all property owners. To bridge this gap, many municipalities have employed methods to incentivize private "ownership" of their front door space. Simple methods include free advertising in return for maintenance through "adopt a sidewalk" and "adopt a street" programs. Others provide awards for best streetscape, leading to good-natured competition. The most progressive communities actually let the businesses manage the downtown streetscape fund, which helps them become invested in doing maintenance when the Town's budget limitations are recognized. In many cases, additional streetscape funds are obtained through on-street pricing, which also helps encourage turnover of valuable customer spaces.

Lead Stakeholder: Board of Selectmen

- **Strategy 2C8: Provide business district "gateways" along pedestrian access routes.** Gateways are an attractive way of branding districts within a town. Applications can be simple banners and pedestrian scale signs, or more elaborate median crossing islands that also serve to calm traffic. Many combine colorful crosswalks (see 2C4) with this application. By creating gateways, pedestrians are treated as important visitors to the district.



Median gateway treatment. Photo by Dan Burden

Lead Stakeholders: Planning Board; Wellesley Chamber of Commerce

- **Strategy 2C9: Reduce travel lane widths in business districts.** When more costly road diets cannot be accomplished easily, municipalities have made dramatic changes in vehicle speeds and pedestrian safety through the use of pavement markings. Most valuable have been visual lane narrowing, where a combination of wider shoulders, on-street parking, and bike lanes have helped reduce speeds without curbline modifications. Wellesley should seriously pursue these low-cost design treatments in its squares.

Lead Stakeholder: Department of Public Works

Goal 3: Maintain Community and Neighborhood Character

Beyond the need to expand walkability in key pedestrian activity areas, the Task Force recognized that walkability needed to be expanded Town-wide to help promote walking as a

viable means of travel. The importance of this as a form of neighborhood preservation was reflected in the following objectives.

Objective 3A:

Accommodate users of all abilities on the existing and future walking network

Walking should not be just a mode for the fit or well-intentioned. It should be a means of transportation available to all people of all ages and abilities.

- **Strategy 3A1: Comply with ADA requirements in all new construction, maintenance & reconstruction projects.** The Americans with Disabilities Act (ADA) established equal access for people of all abilities as a civil right. Among other requirements, the ADA requires universal design of the public right of way. While the Massachusetts Architectural Access Board (MAAB) continues to develop detailed official guidelines governing the pedestrian realm, it has provided sufficient guidance for the design of pedestrian facilities which should become a regular part of all of Wellesley's street and site construction projects. Current Public Works specifications should be updated to reflect the latest MAAB design standards.

Lead Stakeholder: Department of Public Works

- **Strategy 3A2: Consider adjusting crossing signal duration near areas with above average senior or small children population concentrations or activity centers.** While the Town has installed many pedestrian signals near its schools, a broader policy to lengthen their cycle lengths and those of other nearby traffic signals should be considered as part of safe routes to school planning. Similarly, this philosophy should extend to signals that could be used by seniors more regularly if the walk cycle was sufficient for their slower speed.



An elderly pedestrian in Wellesley Square

Lead Stakeholder: Board of Selectmen

- **Strategy 3A3: Institute an "uneven sidewalk shaving program" to smooth minor naturally occurring vertical shifts in pavement.** Concrete sidewalks often heave in cold environments creating raised lips that can create dangerous situations for individuals with ambulatory disabilities. Bituminous (asphalt) sidewalks can wash out or become uneven from tree roots. A simple on-line request program can target needed locations for Public Works to grind the raised edges down to smooth the joints & remove dangerous lips.

Lead Stakeholder: Department of Public Works

- **Strategy 3A4: Provide appropriate curb-ramps at every intersection or crossing.** Accessible curb ramps are necessary for individuals relying on mobility aids, such as wheelchairs, walkers, and even strollers. While minimum MAAB and ADA standards for slopes and detectable warnings (truncated domes) are already met by the Town and developers during most new construction projects, many routine sidewalk repair and

reconstruction efforts do not add ramps for crossings that are not marked. Often the reason to omit a crosswalk from a project is because its installation will prompt MAAB guidelines that require accessible ramps on either approach to a crosswalk – often doubling the scope and cost of a sidewalk repair. This disincentive for providing appropriate pedestrian facilities is unfortunate – but a recognition of the needs of disabled travelers. Towns like Wellesley are capable of making the right investment to place needed crosswalks and build the corresponding ramps when sidewalk reconstruction ensues (a crosswalk can be marked without ramps, and ramps must be installed upon regular reconstruction of the sidewalk).

Note that MAAB guidelines are often misunderstood in other crucial ways: ramps at the apex of a corner serving two crosswalks are not allowed, but in New England, providing standard ramps for each crossing at an historic smaller intersection means displacing them far from the parallel sidewalk path. However, MAAB and ADA each allow the flexibility to do hybrid designs where two ramps may share their level landing and use a lowered sidewalk, enabling ramps to be in line with sidewalk alignments.

Lead Stakeholder: Department of Public Works

- **Strategy 3A5: Replace aesthetic brick pavers with stamped pavement.** Bricks and brick pavers are used throughout Wellesley as an attractive alternative to asphalt or concrete, and they are often used to emphasize pedestrian crossings. However, pavers often shift in cold climates creating dangerous lips that may cause pedestrian falls to occur. During reconstruction efforts, the Town should seek to replace existing brick pavers with a brick, flagstone, cobblestone, etc. pattern imprinted into bituminous or concrete paving. These treatments have been shown in New England to maintain the aesthetic benefit of pavers while removing the potential danger caused by shifting and heaving.

Lead Stakeholder: Department of Public Works

Objective 3B:

Promote consistent high-quality, context-sensitive designs for walking

The Task Force recognizes that maintaining a quality pedestrian environment in the future will need clear guidelines to ensure that all infrastructure projects accommodate pedestrians and cyclists in an appealing and safe manner.

- **Strategy 3B1: Develop a flexible, context sensitive streetscape design guidelines manual.** As part of both zoning/site plan guidance as well as Public Works specification, the Town should establish a graphical streetscape design manual that can be used as an easy to read resource for any future developments. Such manuals have proven immensely helpful at codifying desired aspects of walkable design while making permitting processes simpler and more predictable for developers and permitting agencies alike. Wellesley's manual should allow for incorporating local preferences of land owners and neighbors while establishing a clear set of minimum design standards for different street classifications.

Lead Stakeholders: Dept. of Public Works; Planning Board

- **Strategy 3B2: Require compliance with streetscape design guidelines for all new development.** With a well-designed and well-vetted manual in place, Wellesley can move to a point where all new development must comply with its streetscape design manual, ensuring predictable results in all future development.

Lead Stakeholders: Design Review Board; Zoning Board of Appeals; Planning Board

Goal 4: Improve Community Connectivity, Cohesion and Communication

A number of operational and infrastructure strategies were identified by the Task Force which would help improve key gaps in Wellesley's walking networks outside of its commercial districts, helping to encourage walking by recognizing the need to overcome safety deficiencies.

Objective 4A:

Connect gaps in Wellesley's existing walking network

Many participants at the community workshop identified numerous gaps in residential neighborhoods that could defeat the goals of increasing walkability, especially for school-age children. Some of those are at locations identified in the map in Appendix A. Other are perceived gaps, largely a result of poor communication between residents and the Town. Participants generated many good strategies that could help address these deficiencies.

- **Strategy 4A1: Encourage neighborhood plans that identify and prioritize missing connections.** Local residents are the greatest resource for identifying issues in their neighborhoods. The Town should capitalize on the value of local input by encouraging neighborhood plans that empower residents to become the key agents for changes. With a consistent outline and guidance for how such plans could be prepared and reported, the Town can gain a valuable set of information at extremely low cost. This approach also helps break down barriers between government and residents, often resulting in broad consensus around difficult decisions to invest in new infrastructure.

Lead Stakeholder: Planning Board

- **Strategy 4A2: Institute a clear quantitative sidewalk condition rating system to direct maintenance efforts.** Setting out a clear methodology for rating the condition of sidewalks will help direct maintenance efforts, avoiding the tendency to only address areas where complaints are heard. An objective approach helps simplify process while encouraging fairness. Things to include in this methodology should be material, perpendicular cracking, parallel cracking, heaving, edge integrity and holes. This system should have a number of tiers including a condition rating and a period for review, such as Excellent (review in 5 years), Good (review in 3 years), Fair (review in 2 years), Watching (review in 1 year), Repair, and Replace. A rating guide can provide photo examples of the different levels in order to ensure continuity from analysis to analysis.

Lead Stakeholders: Department of Public Works; Board of Selectmen

- **Strategy 4A3: Provide online sidewalk improvements/additions/removals tool.** The Town should establish a centralized on-line depository allowing residents to request

improvements and identify trouble locations as they arise. This inexpensive request line helps facilitate communication between the Town and residents.

Lead Stakeholder: GIS Department

- **Strategy 4A4: Provide sidewalks that are continuous and connected with trails.** As made clear in Appendix A, there are numerous disconnected sidewalks in Wellesley. Discontinuous walkways discourage walking and diminish the likelihood of using them for traveling even short distances by creating serious safety threats, especially for youth. They are like putting a gate across an otherwise drivable street. Wellesley's existing network of sidewalks should be fully connected to enable safe walking between neighborhoods and commercial districts.



Crossing with no sidewalk to a walking trail, Grove St.



Sidewalk ends abruptly one block away, Grove St.

Lead Stakeholders: Department of Public Works; Trails Committee

Objective 4B:

Encourage walking within and between neighborhoods

Even with a complete walking network in place, the Task Force recognized that shifting people out of their cars often requires incentives and encouragement to utilize walking facilities better.

- **Strategy 4B1: Ensure all new sidewalks conform to DPW specifications.** Over the years, a variety of sidewalk styles have been installed throughout town. In many places, these are compromised by terrain and trees, such that the effective walking width is narrow or grades are too steep. The Department of Public Works has sought to have all new sidewalks installed to its specifications of at least 5-feet wide, including a 3-foot tree lawn, but many private land owners have installed non-standard treatments.

To ensure a consistent treatment and a consistent level of maintenance, all sidewalks should be built to DPW standards

Lead Stakeholder: Department of Public Works



Unique but conforming sidewalk on Benvenue

- **Strategy 4B2: Provide walkway network maps and walkway shortcut maps on the Town website.** While those with regular walking patterns know where to find a good route, many seeking to make more occasional trips may not be aware of convenient walking facilities or places where no sidewalks exist. A simple solution the Town can implement is to post walking maps similar to that in Appendix A on the Town's website. These online maps can identify different types of walking routes, such as scenic routes, short-cuts, safest routes, etc. greatly increasing the likelihood of people choosing to walk.

Lead Stakeholder: GIS Department

- **Strategy 4B3: Support & encourage block parties, neighborhood garage sales, etc.** Just as street fairs in commercial districts are designed to encourage walking activity, street life in residential neighborhoods is a great way to encourage walking. These types of events provide momentum to spur more walking by helping neighbors realize they are often only a short walk away. The Town can help jump-start this activity by organizing some events as well as making the process for applying for necessary street closure permits simple.

Lead Stakeholder: Board of Selectmen

Objective 4C:

Expand & enhance future physical connections within Wellesley

Planning for future walking improvements should be a part of the Town's long-range planning efforts. Preparing documentation of long-range walking improvements is an important step to realizing a vision of better connections, particularly across key barriers in the town.

- **Strategy 4C1: Consider pedestrian overpasses/underpasses at railroad corridors and limited access roadways.** In some situations, safe at-grade crossings are extremely difficult to provide. Route 9 and the Worcester rail line represent the two foremost barriers in Wellesley that cannot be easily traversed by foot at grade. While many have expressed a desire to see grade-separated crossings of these facilities, the Town has not taken a specific position, owing largely to the cost of these installations. However, if these barriers are to be overcome in the future, the Town should develop plans with a clear preference for crossing locations so that future plans and development will not hinder and may support these facilities.

Lead Stakeholders: Board of Selectmen; Planning Board

- **Strategy 4C2: Educate residents on safety protocols for in-road walking.** In certain neighborhoods and on certain low-speed roads, sidewalks are not necessary for safe walking, and sidewalks are often not wanted by the local residents of these roads. In these limited instances, it becomes paramount that walkers follow the simple rule of walking in the shoulder against the flow of traffic to maximize visibility and reaction times. Frequently, the Police Department sees poor compliance with this simple rule and often encounters errant crossings at unsignalized crosswalks. The Town should develop simple educational materials to emphasize safe walking rules town-wide, which also will help to retain the character of Wellesley's walking streets that don't have sidewalks in the future.

Lead Stakeholder: Police Department

- **Strategy 4C3: Encourage development of a non-roadway pedestrian network.** Public streets and sidewalks are not always the best routes for satisfying pedestrian desire lines. Frequently, the best and safest route is on private property through a parking lot or along storefronts. Many schools could be better served with more formalized walking routes through unused private property as well. Such connections are common but not frequently prioritized by property owners who often misunderstand the role their property has and the ability of the Town to assume a certain level of liability on behalf of a property owner. Similar to the experience at Linden Square, the Town should begin working with landowners in areas where a clear demand is unmet to help walking networks connect through blocks and sites, and connect buildings to each other, to the street, and to transit facilities.



Wellesley Hills: desirable walking route on private property, not the sidewalk.

Lead Stakeholders: Planning Board; Wellesley Chamber of Commerce

- **Strategy 4C4: Minimize the number of wide streets with over one lane in each direction.** Wellesley should begin to reevaluate proposed vehicle capacity changes when new development or roadway improvements are planned. As a general rule, regardless of the level of pedestrian crossing infrastructure, each extra lane on a roadway diminishes the safety and comfort for pedestrians crossing the road. Many communities in the United States now chose not to expand roadway capacity, even though traffic engineers argue for greater roadway capacity. These decisions have resulted in dramatic mode shifts and increases in walking, even though development continues very successfully. Wellesley is certainly at a point where it too can justify a limit on road capacity given its growing walking, biking and transit infrastructure.

Lead Stakeholder: Board of Selectmen

Objective 4D:

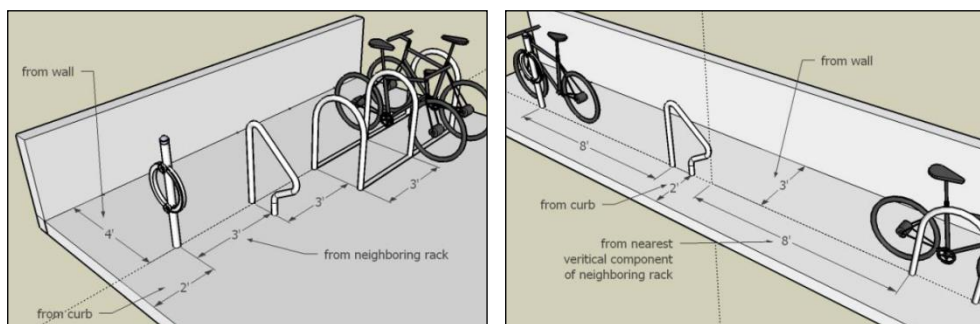
Preserve ability to circulate by all forms of transportation

Wellesley should begin thinking multi-modally about all transportation infrastructure. Each street conveys people by car, on foot, by bike, and often by transit. Addressing only the auto-oriented infrastructure will result in an auto-orientation.

- **Strategy 4D1: Install bike and pedestrian auto-detection at intersections.** At signals that do not have fixed phase timing, automatic detection of pedestrians and bicyclists helps improve the safety and service provided to all travelers. Much like actuated vehicle approaches, automatic actuation for pedestrians and bikes makes intersections process travelers more efficiently. When people must press push-buttons, delays increase significantly, and non-compliance is common. Today's automatic detection devices are an inexpensive addition to normal signal improvement projects.

Lead Stakeholder: Board of Selectmen

- **Strategy 4D2: Institute bicycle parking requirements in zoning code.** One of the greater modal imbalances in most communities are the infrastructure provided for bicycles. Even when bike lanes are not present, bicyclists regularly travel – especially in commercial districts. Wellesley’s zoning code is very clear on providing space for the storage of cars, but it makes no accommodation for bicycles. As a result, Wellesley’s bicyclists have few acceptable places to lock their bikes, often resulting in conflicts with pedestrian paths. Furthermore, many trips that could be shifted from car to bike do not happen due to the lack of acceptable bike parking. Wellesley’s zoning code should include specific bicycle parking requirements so that a comprehensive bicycle parking infrastructure can be established over time.



Bicycle parking guidance from Cambridge zoning

Lead Stakeholder: Planning Board

Goal 5: Preserve and Enhance a Healthy and Active Lifestyle

The Task Force recognized that the benefits of promoting walking go far beyond place-making and reducing vehicle travel and emissions. The health benefits of walking are well documented to improve health and well-being while helping to battle obesity. Given the enormous growing cost of health care in the United States, walking is becoming an important part of reducing costs for all sectors of our society.

Objective 5A:

Educate residents on the ways walking benefits their well-being

The simplest way to encourage walking and its positive benefits is through an education and outreach campaign.

- **Strategy 5A1: Identify well-being benefits of walking in newsletters.** Newsletters with a wide base in town, such as parent teacher organization newsletters or annual town information newsletters, provide a great forum for informing residents of the many benefits that walking can provide for their well-being. The Town should make a series of simple informational pieces and then seek to have them placed in upcoming newsletters.

Lead Stakeholders: Board of Health; Parent Teacher Organizations

- **Strategy 5A2: Identify well-being benefits on wayfinding kiosks/maps.** Another simple educational tool is to include the same information pieces about the benefits of

walking on existing and future wayfinding signs and kiosks in Wellesley. Not only will casual encounters with these signs help encourage existing pedestrians to walk more often, but they help to advertise the Town's goals in an approachable manner that is constructive for all.

Lead Stakeholder: Board of Health

Objective 5B:

Encourage greater use of recreational trails

Wellesley's network of off-street recreational trails is unparalleled in the state for its density and completeness, especially given the relative lack of open space in this suburban community. This asset should continue to be expanded and utilized to greater extents.

- **Strategy 5B1: Hold trail centered public events & fundraising activities.** The Town should work more formally with the Trails Committee to embrace the positive impact on the walking environment that Wellesley's excellent trail system can have. Public events can introduce non-trail users to the system and attract interested volunteers for needed on-going maintenance.

Lead Stakeholders: Board of Selectmen; Trails Committee

- **Strategy 5B2: Identify practical use short cuts along trails.** Wellesley's trails serve a distinct function in the walkway network by penetrating into areas away from roadways as well as crossing through the town along unique routes that often connect places along the shortest possible route. Identifying and signing clearly valuable short-cuts along the trail system will increase their use for practical walking trips while highlighting the value of the overall system.

Lead Stakeholder: Trails Committee

- **Strategy 5B3: Provide signage and maps at all trailheads.** One of the greatest barriers to increased use of a transportation system is information about where it takes you and how long it will take. For Wellesley's trail system, this information is missing at many trail heads, often discouraging casual users. Signage and maps with distance information placed at trailheads that help to direct people along the trail as well as from nearby destinations integrates the trail system further into Wellesley's walking network.

Lead Stakeholder: Trails Committee



Trail map & kiosk in Wellesley Square

Objective 5C:

Encourage walking between neighborhoods

A repeated desire expressed by nearly all residents of Wellesley's neighborhoods was general improvement to the conditions for walking to their neighbors. A large part of this was not just adding missing infrastructure but also providing the education and outreach to encourage short trips by foot, especially for students going to school.

- **Strategy 5C1: Charge for high school parking permits to encourage shared spaces, carpooling, walking, and biking.** Even in households where parents understand the value of walking to school, the availability of free parking at the high school incentivizes many students to drive alone when they could walk, bike or carpool. Implementing a simple permit program with a fee can help dissuade this activity. Similar strategies include limiting the number of spaces available to students and placing a significant price on the permit.

Lead Stakeholder: School Committee

- **Strategy 5C2: Coordinate the organizing of inter-neighborhood "walking school buses."** Walking school buses are great ways to encourage safe walking to school, stimulate social interaction, and teach young students how to safely walk to school on their own. Organized by schools, town government, and parent teach organizations, the strategy has been extremely successful at changing attitudes about the safety of walking to school (which is statistically much safer than driving.)

Lead Stakeholders: Parent Teacher Organizations

- **Strategy 5C3: Encourage parents of students living within a mile of the school to allow them to walk rather than chauffeuring them.**



Cars waiting to pick-up students at the High School

schools, walking is an easy and healthy 20 minute exercise, and the Town should seriously consider outreach methods to encourage it.

A common scene repeated throughout the United States is the queue of parents dropping of their children at school – the very same schools the parents and most students once walked to or maybe rode the bus. Even though driving is less safe than walking, the cocoon of the family car is embraced more each year throughout the United States, and Wellesley is no exception. If the town wants to encourage walking in the future, it must look to the next generation and instill an appreciation of walking at an early age. For families living within one mile of

Lead Stakeholder: School Committee

- **Strategy 5C4: Institute well-planned "walk & bike to school" days a few times a year.** Just as cities around the globe have had great success with periodic "take back the streets" type events, the Town can easily organize several "walk & bike to school" events each year to encourage more use of these modes. On walk & bike to school days, driving to school should be strongly discouraged and walking and biking should be the focus of activity for the day.

Lead Stakeholders: Board of Health; School Committee

- **Strategy 5C5: Provide covered bike parking or bike lockers at all schools.** A simple strategy to discourage driving and expand the presence of pedestrians is to easily accommodate bicycle parking at schools. The Town should have covered bike parking and bike lockers installed at all schools which will provide security and protection from the

elements, helping to elevate biking as a transportation form and create more activity on foot.

Lead Stakeholder: School Committee

- **Strategy 5C5: Provide enhanced features at intersections within 1/4 mile of schools.** The Department of Public Works has installed pedestrian signals and international-standard wide crosswalks near most schools in Wellesley. This important focus on walking safety should become a formal Town program and expanded to common walking routes near the schools. Concentrating on providing specially designed crossings with features within a 1/4 mile of schools will make drivers more aware and students feel safe when walking.



Pedestrian signal at Hardy School

Lead Stakeholder: Board of Selectmen

- **Strategy 5C6: Provide students and parents with recommended walking route information tailored specifically to each school.** A very simple and low-cost strategy for increasing the attractiveness of walking is to create walk-to-school maps for each school in Wellesley. These maps should identify preferred routes with sidewalks and safe crossings to the school from all the neighborhoods nearby.

Lead Stakeholders: GIS Department; School Committee

- **Strategy 5C7: Regularly revisit crossing guard locations and relocate accordingly.** Wellesley's Police Department uses officers and volunteer crossing guards to help ensure safety near schools, which has worked very successfully over the years. However, every few years the walking patterns of the new students may change the locations where crossing guards would best serve the students' needs. Therefore, the Town should make an effort to revisit assignments every few years to ensure that they are in ideal locations.

Lead Stakeholder: Police Department

Objective 5D:

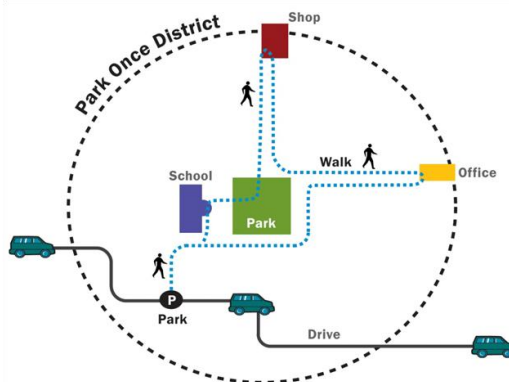
Encourage walking between businesses

While robust walking infrastructure in Wellesley's commercial districts enables walking and cuts down on short vehicle trips, many travelers will not be encouraged to do so without encouragement and incentives.

- **Strategy 5D1: Actively promote visiting businesses within the business district.** A simple collaborative strategy used in many communities is to have a listing and map of businesses within a commercial district available for merchants. Business associations then encourage their members to actively promote the proximity of other local businesses to patrons to help promote walking trips as opposed to seeing customers jump back in their car. The strategy takes little effort but helps make districts more walkable and customer friendly.

Lead Stakeholder: Wellesley Chamber of Commerce

- **Strategy 5D2: Promote a "Park Once" strategy for business districts.** Progressive downtown districts have implemented a "park once" strategy that makes efficient use of the existing parking supply by including as many spaces as possible in a common pool of shared, publicly available spaces. By working across property lines in cooperation, multiple landowners can realize the greater efficiency of spreading the various peak parking demand times of many businesses across a bigger pool of spaces, thereby greatly reducing the overall supply needed. Much like a shopping mall, this allows more parking availability and fewer vehicle trips by customers fearing "patron-only" tow warnings. Augmented by signing that points to even the most hidden spaces, a "park once" strategy can help reduce vehicle traffic and encourage a chain of trips in a square to occur on foot.



Lead Stakeholders: Board of Selectmen; Planning Board; Wellesley Chamber of Commerce

- **Strategy 5D3: Provide clear and ample signage to parking facilities.** As part of or independent of a "park once" strategy, the Town should work to improve its parking signing system. Often in Wellesley's squares, the most visible and most convenient parking spaces are entirely full, while parking spaces just behind a building – or a block away – sit largely vacant. The result is often a perceived parking shortage, even when a district as a whole has hundreds of vacant parking spaces available. This strategy helps retain visitors to squares while activating routes from remote parking with pedestrians – often helping fringe retail locations.

Lead Stakeholder: Board of Selectmen

- **Strategy 5D4: Provide large format district directory maps between parking locations and destinations and at business district "gateways."** Among both infrequent and frequent visitors to a square, confusion about where to find a destination is common, especially given the small boutique nature of commercial space in Wellesley. A simple strategy that is used in every indoor mall, business directories with maps help to provide guidance to arriving customers so that the anxiety of finding a destination within the shortest walk of a parked car can be removed, helping to encourage parking and walking from more remote locations. Such directories also serve as convenient advertising for the local businesses.

Lead Stakeholder: Board of Selectmen

Goal 6: Promote Safety for All

Safety was a common theme of Task Force participants. All members requested that the final report include the latest recommended safety treatments, which are described below.

Objective 6A:

Increase safety for pedestrians at vehicular crossings

While Wellesley employs some excellent safety treatments at vehicular intersections, many of the latest conventions in pedestrian safety could be employed with great success in town.

- **Strategy 6A1: Expand and enforce "No-Right-On-Red" regulations.** "No-Right-On-Red" regulations were designed to protect pedestrians from turning vehicles, and they are still the rule in some cities. However, increasing auto-dominance and the fuel crisis of the 1970's saw the removal of many of these regulations to allow "free-rights." While the removal saw no measurable impact on fuel consumption, it had a very negative impact on walking safety. This "free" maneuver is entirely inappropriate in a community like Wellesley, especially where walking is being encouraged. The Town should seek to restore "No-Right-On-Red" regulations and signing at signalized intersections in and near all of its squares, schools, and commuter rail stations – if not town-wide.

Lead Stakeholders: Board of Selectmen; Police Department

- **Strategy 6A2: Install corner bollards to buffer pedestrians from traffic.** Corner bollards provide physical and visual protection for pedestrians at intersections, particularly those with higher vehicle speeds and large truck movements. Bollards help to reinforce the need to turn at a safe speed while allowing pedestrians to approach safely to a point where they can be seen easily.

Lead Stakeholder: Department of Public Works



Corner bollards, Cambridge MA

- **Strategy 6A3: Institute a maximum intersection curb radii standard.** Wide curbs allow cars to speed around corners. However, standard engineering practice is usually oriented to maintaining the highest possible turning speeds and/or accommodating the longest possible vehicle axle base. While the latter has applicability on truck routes without shoulders and on-street parking, Wellesley has no need to encourage additional vehicle speed anywhere in town. The Town should implement a curb radius standard for any future intersection designs of no more than 15-feet, with lower radii possible on small streets.

Lead Stakeholders: Board of Selectmen; Planning Board

- **Strategy 6A4: Maintain clear sightlines at intersections and crossings.** Often overlooked during driveway reviews, intersection improvements, and fence and landscape installations, clear sightlines allow pedestrians a wide field of view to see oncoming vehicles and allow vehicles to see pedestrians well before arriving at a crossing. At a

minimum, a 25-foot sight triangle should be preserved where vehicles cross sidewalks and crosswalks. This means that no vertical obstruction above 36-inches high should obstruct more than 50-percent of the view from a driver's seat for 25-feet left and right along the sidewalk or crosswalk.

Lead Stakeholder: Department of Public Works

- **Strategy 6A5: Provide curb-extensions.** As part of all new roads and roadway reconstruction projects, curb extensions should be installed if possible wherever a pedestrian crossing is placed. Curb extensions or “bump-outs” place the pedestrian in a highly visible location, increase their sightlines, and reduce the crossing distance, which not only reduces pedestrian exposure to vehicles but reduces vehicular delay.



Curb extensions increase visibility while reducing crossing distances

Lead Stakeholder: Department of Public Works

- **Strategy 6A6: Provide enhanced high-visibility international standard colored striping or alternative paving materials / patterns for crossings.** Highly visible crosswalks clearly identify locations where the pedestrian realm and the vehicle realm intersect, establishing the pedestrian's right to the road and alerting drivers. Wellesley has already employed this approach in key locations, particularly with stamped red asphalt crossings in its squares and international standard crosswalks on key corridors – especially near schools. Going forward, these treatments should be the only acceptable crosswalk designs in Wellesley as they are highly visible and accepted nationally.



Typical international standard crossing in Cambridge

Lead Stakeholders: Board of Selectmen;
Department of Public Works

- **Strategy 6A7: Provide pedestrian refuge islands across roads of more than two lanes.** Pedestrian refuge islands allow pedestrians to wait for a safe crossing when unable to cross the entire road in a single attempt. Best utilized at unsignalized crossings, the islands can easily shadow left-turn lanes or be used as a traffic calming device for through lanes by forcing traffic to “chicane” around them.

Lead Stakeholders: Board of Selectmen;
Department of Public Works



Crossing island on Mass Ave, Cambridge

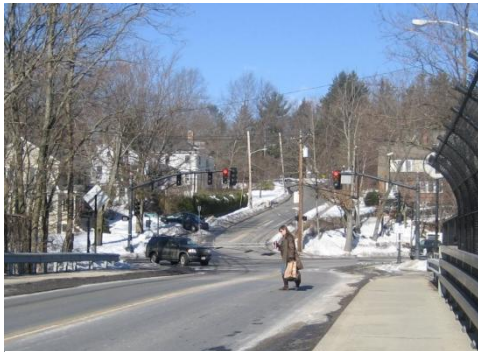
- **Strategy 6A8: Use enhanced countdown-count up pedestrian signals at signalized intersections.** Wellesley has already successfully employed LED countdown signals in Wellesley Square which have visible second timers that indicate when the end of the walk cycle is coming. These signals are proven to greatly increase pedestrian compliance and should become standard installations at any future signal upgrades in Wellesley. Additionally, Wellesley should explore employing countdowns for the “Don’t Walk” phase, which boosts compliance even further by letting pedestrians know when the “Walk” indication will return.

Lead Stakeholders: Board of Selectmen; Department of Public Works

Objective 6B:

Maintain & enhance pedestrian safety along all roadways

While vehicle-pedestrian conflicts are typically associated with intersections, the Task Force recognized that many roadways are threatening to walk along, even when a sidewalk is provided. The following strategies include best practices to improve this experience.



Desire line crossing Crest Rd.

- **Strategy 6B1: Establish new crosswalks along pedestrian desire lines.** While Wellesley keeps up good crossing infrastructure in many places, people often cross the road where it is most convenient, which is not necessarily at the existing crossings. Identifying these desire lines and providing crossings improves safety dramatically by warning drivers. The Town should seek the input of residents to assist with this effort, soliciting recommendations on-line and through printed material.

Lead Stakeholder: Department of Public Works

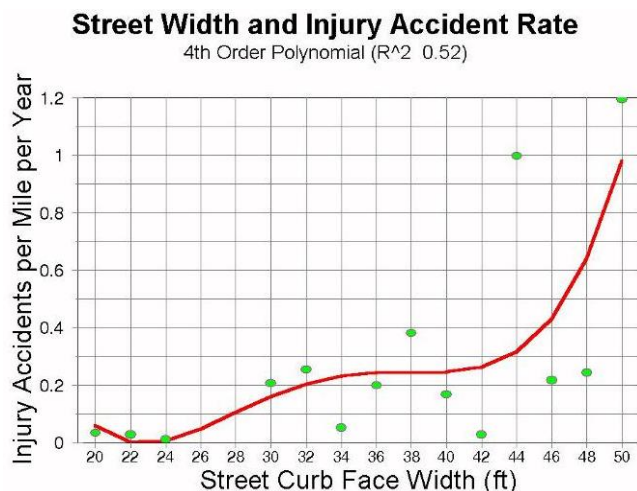
- **Strategy 6B2: Install pedestrian-scaled street lighting in addition to roadway lighting.** Street lights are typically intended to light the street and do not serve the walkway well, making pedestrian scaled lighting desirable. Wellesley has installed excellent lighting in its squares and along Washington Street that serve both users rather well. However, many other access routes – particularly near schools – do not have pedestrian-scale lighting, discouraging walking trips later in the day, especially during short winter days. Wellesley should make it common practice to install its pedestrian-accommodating lights with all lighting upgrade projects.



High school sidewalks served by road lighting

Lead Stakeholders: Department of Public Works; Planning Board

- **Strategy 6B3: Provide on-street parking and/or bicycle lanes to provide "buffers" from traffic.** In many of Wellesley's squares and residential neighborhoods, a significant



factor impacting walkability is the width of the town's streets. Frequently, paved width on two-way streets exceeds 40-feet when as little as 26-feet would easily provide two-way travel with on-street parking. Given the noticeable increase in pedestrian fatality rates that occurs when hit by vehicles traveling above 25mph, wide cross-sections – especially in residential neighborhoods – should be reduced where possible through the installation of parking lanes. Where parking demand is too low, bike lanes with shoulders should be installed to keep lane widths no greater than 11-feet.

Lead Stakeholders: Police Department; Department of Public Works

- **Strategy 6B4: Reduce the number of vehicular curb cuts to the minimum necessary.** Many sites in Wellesley, particularly in its walkable commercial squares, have redundant vehicular access with two or more curb cuts. In many instances, adjacent parcels could share one curb cut but instead retain two side by side. Each instance where a pedestrian has to cross these vehicular paths is a point of possible conflict and a detriment to the pedestrian environment. Consolidating curb cuts not only improves pedestrian safety, it also reduces vehicular conflicts, improves streetscape aesthetics, and affords the opportunity for infill development in the future.

Lead Stakeholders: Department of Public Works; Planning Board; Zoning Board of Appeals

Goal 7: Encourage a Sustainable Approach to the Environment

Walking can have a very beneficial impact on the environment, especially where walking trips remove vehicle trips from the road. Even where a vehicle trip is necessary to access a square, being able to reduce subsequent trips by maximizing walking journeys between uses in a square will help to greatly reduce emissions impacts, which are at their height when cars are idling or circling for another parking space.

Objective 7A:

Discourage idling vehicles at schools & other pick-up/drop-off locations

Nearly all Task Force members acknowledged the growing trend of parents driving their children to school, especially from locations served by buses or within a short walk of the school. The misperception that driving is safer than walking often motivates parents, but it results in less focus on the condition of walking routes to school, tending to lead to a spiral of neglect as the Town is forced to focus more effort on the school and less on its physical integration with its surrounding

neighborhoods. Given the need to enforce the value of walking over driving for future healthy lifestyles and environmental sustainability, the following strategies were recommended.

- **Strategy 7A1: Adopt and enforce an anti-idling ordinance at all schools and municipal buildings.** For many, the use of a car instead of walking also serves a secondary purpose as a sort of “waiting room” while other trip purposes are conducted by passengers on foot. When a driver idles to keep the car warm or cold inside, stationary tailpipe emissions not only have a negative impact on the environment, they can substantially affect the health of the children we seek to pick-up. A simple strategy for eliminating idling is to allow faculty parking where drop-off occurs today, relocating drop-off into a specified zone further away in school parking lots or on adjacent streets – much like a cell-phone waiting lot at airports. Only a bus and emergency access lane could be used near the school door. The Town’s assurance of a safe walking connection to the remote site will force an improvement to the walking environment; the longer walk will make the convenience of drop-off access less appealing to students, promoting walking and busing; and dispersing drop-off locations will help reduce congestion issues that plague many schools in Wellesley.

Lead Stakeholders: School Committee; Parent Teacher Organizations; Board of Selectmen

- **Strategy 7A2: Coordinate the organizing of "school pools," a carpooling program for school children.** School pools are a recent innovation with age-old roots. Similar to carpooling, school pools are semi-organized car pools that allow one parent and their vehicle to pick up and drop off many children. Recent ridesharing innovations enable these school pools to be coordinated in advance, with last-minute changes possible through a quick click of a button. School pools can greatly reduce the number of vehicles queuing at schools waiting to pick up a child. The Town can easily facilitate a Wellesley school pool system through many online organization, such as GoLoco and ZimRide.

Lead Stakeholder: Parent Teacher Organizations

Objective 7B:

Discourage vehicles circling in business districts

Research indicates that an average of 30-percent of the vehicle traffic in commercial districts is made up of vehicles circling for available parking – often unaware that a convenient space is available out of sight within a very short walk of their destination. Recent parking reform initiatives have unlocked pools of vacant parking in downtowns once thought to have a “parking problem,” enabling private and public stakeholders to work together to improve congestion and stimulate economic development by making their downtowns more pedestrian-friendly. The following

Year	City	Share of traffic cruising (percent)	Average search time (minutes)
1927	Detroit (1)	19%	
1927	Detroit (2)	34%	
1933	Washington		8.0
1960	New Haven	17%	
1965	London (1)		6.1
1965	London (2)		3.5
1965	London (3)		3.6
1977	Freiburg	74%	6.0
1984	Jerusalem		9.0
1985	Cambridge	30%	11.5
1993	Cape Town		12.2
1993	New York (1)	8%	7.9
1993	New York (2)		10.2
1993	New York (3)		13.9
1997	San Francisco		6.5
2001	Sydney		6.5
Average		30%	8.1

The numbers after Detroit, London, and New York refer to different locations within the same city.

Excerpt from “The High Cost of Free Parking,” by Don Shoup

parking strategies have the benefit of expanding walking in Wellesley's squares by better-utilizing shared parking resources.

- **Strategy 7B1: Develop coordinated access management plans for key business district corridors.** Access management plans limit the number of potential vehicle conflict points along a major corridor as a way to facilitate all movements. In most cases these plans identify ways for multiple properties to consolidate necessary parking lot/loading access points, eliminating or reducing left turns, and connecting businesses with walkways, bikeways, local shuttles, and linked parking lots. In some situations, access management plans may also recommend clearly defined "service" or local access roads to allow movement along the corridor without entering the main thoroughfare – such as between Linden Square businesses parallel to Linden Street itself.

Lead Stakeholders: Planning Board; Wellesley Chamber of Commerce

- **Strategy 7B2: Establish commercial parking benefits districts to reinvest parking revenue into the business district.** Many communities in the United States have turned the "problem" of downtown parking into a cooperative opportunity for communities to reinvest and spur economic development through parking benefit districts. The strategy is underpinned by letting merchants and businesses use parking revenues in their commercial district for local streetscape, parking, and transportation improvements. In the hands of businesses and their accountants, the value of parking as an asset is quickly realized and efficient strategies are employed to better utilize remote assets for employees, freeing up customer spaces, and attracting customers to park and enjoy walking among businesses as opposed to circling for parking. Frequently, the districts can use revenue bonds for downtown improvements that attract new customers.

Lead Stakeholders: Board of Selectmen; Wellesley Chamber of Commerce

- **Strategy 7B3: Explore market based pricing of on-street parking in appropriate locations.** Always available, convenient, on-street customer parking is of primary importance for retail to succeed. To create vacancies and rapid turnover in the best, most convenient, front door parking spaces, it is crucial to have price incentives to persuade some drivers – especially employees – to park in the less convenient spaces: higher prices for the best spots and cheap or free prices for the less convenient, currently underused spaces. The most successful applications of market-based pricing remove time-limit regulations entirely, switching the customer experience from fearing the "stick" of a parking ticket to choosing the "carrot" of parking as long as you like at a price you are willing to pay.



Map of market-based pricing tiers, Redwood City CA

Lead Stakeholder: Board of Selectmen

Goal 8: Expand Community Access through All Forms of Transportation

The Task Force correctly realized that greater walking rates are encouraged through the use of alternatives to the automobile. While every driver must become a pedestrian at some point, bikers and transit riders are typically more reliant on walking connections. Promoting their use and improving walking amenities helps increase walking trips while also making trips to remote parking spaces more welcoming.

Objective 8A:

Improve walking connections to transit and parking

The transit rider's trip does not start and end at the train or bus doorway. The pedestrian experience off of transit can be just as important as the experience onboard. Where stations and stops lack good treatments for walking, transit ridership suffers. The following strategies are highly valuable for improving access to transit in Wellesley.

- **Strategy 8A1: Improve train station and bus stop amenities.** The imbalance in the quality of transportation amenities among modes of travel is clear in every place we travel. Vehicular signing, lighting, travelway conditions, signalization, parking, pavement markings, on-line resources, etc. are all vastly superior to those available to walkers, bikers, and transit riders. Often there are narrow uneven sidewalks with no wayfinding signs, missing bicycle markings with no bike racks, and no basic schedule information or protection from rain at bus stops. Even with superior facilities for walkers as compared to most communities, Wellesley is no different in this regard as transportation systems have catered to the predominant mode since the 1950's – the automobile. However, places like Wellesley are at a point of being capable to prioritize other modes as they once were before the introduction of the automobile. At its simplest, this includes installing and maintaining an inventory of train and bus stop amenities, including the installation of better shelters, more seating, more schedule and route information, newspaper stands, etc. The cost of improving all of Wellesley's transit amenities to the highest quality can be less than most single roadway improvement projects.

Lead Stakeholders: MBTA; Board of Selectmen

- **Strategy 8A2: Integrate access routes to transit stations and adjacent properties.** Part of promoting the use of transit is making the vital connections into nearby destinations clear and accommodating. Set back from main streets, Wellesley Square Station is entirely hidden from view by motorists and pedestrians alike. A clear set of signs, walkways, and lighting should be installed on direct access routes, even where they traverse private property. Walkways that are distinct from the parking lots they must cross are important for encouraging those seeking to walk and ride. Gateway treatments at nearby streets are important, and connections to nearby buildings should be addressed. These principles apply to bus stops as well.

Lead Stakeholder: Planning Board



Pedestrian access to the Wellesley Square station is entirely unmarked

- **Strategy 8A3: Provide ample pedestrian scale lighting at rail stations and along station access routes.** For many months of the year, rail commuters returning home to Wellesley must walk from the station during nighttime. At many stations, this is an intimidating experience, as light levels may be low or lights may be placed for car movement and not walking to the car or elsewhere. Station area lighting should be designed to serve the pedestrian and illuminate all areas where people may walk or wait. This can be facilitated through more inexpensive pedestrian-scale lighting to replace overhead “cobra” style lights which do not provide enough illumination for pedestrian safety – especially if you are a woman walking alone at night.

Lead Stakeholders: MBTA; Department of Public Works

- **Strategy 8A4: Provide enhanced intersections within 1/4 mile of commuter rail stations.** Similar to the provision of walking protection features near Wellesley’s schools, improved protection at intersections near train stations will help encourage a broader walking catchment, helping to reduce park and ride trips. Special features at intersections near stations may include larger crosswalks, pedestrian crossing signals, enhanced lighting, wayfinding, and traffic calming measures.

Lead Stakeholders: Board of Selectmen; Department of Public Works

- **Strategy 8A5: Provide regular maintenance to station access routes.** The comfort of the walking portion of a rail commute is highly dependent on the quality of the environment the municipality maintains. Some of the biggest obstacles cited by commuters can be trash, leaves, sand, snow, and ice. Efforts to clear debris and snow, repair stairs, and fill pavement holes can go a long way to encouraging walk access to commuter rail stations in Wellesley.

Lead Stakeholders: Department of Public Works;
Wellesley Chamber of Commerce



The only direct walkway to the Wellesley Station is along the edge of its parking lot

Objective 8B:

Incentivize walking as an alternative to driving to business districts

The need to increase walking amenities to access Wellesley’s business districts from nearby neighborhoods was recognized by many on the task force who themselves encountered many obstacles and delays that discouraged walking. With greater walking access, Wellesley’s squares can become better utilized for local-serving retail needs.

- **Strategy 8B1: Explore funding year-round town circulators/shuttles/trolleys.** Local circulators have been very successful in many communities in the United States, working to shuttle workers between transit and jobs, residents between business districts and homes, and visitors between local destinations. Their presence automatically increases the amount of walking in communities anywhere near shuttle stops. However, successful operations require a critical mass of potential riders and secured funding sources, often in the form of business levies or parking revenues. Frequently, local circulators are funded



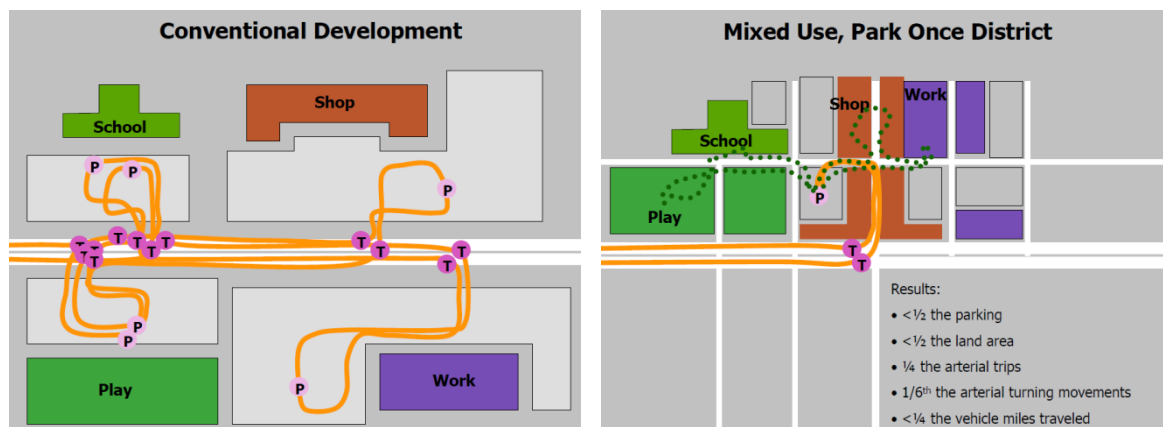
The EZRide shuttle, serving Cambridge MA

by transit agencies where they provide ADA accessibility as well. The Town should investigate the feasibility of a circulator in Wellesley that would help to better connect neighborhoods with commercial districts.

Lead Stakeholders: Board of Selectmen; Wellesley Chamber of Commerce

- **Strategy 8B2: Mix land uses that generate and attract pedestrians.** A natural outcome of mixed-use districts of sufficient density is an increase in walking, regardless of the environment. By placing more uses that meet multiple trip purposes within close walking proximity of one another, communities can eliminate vehicle trips and promote walking. This condition, known as “internal capture,” already exists to some degree in Wellesley’s squares. However, the potential to increase walking trips even more exists, especially with the addition of infill housing and more local-serving retail, whose complementary parking demands would require no additional parking construction in Wellesley’s squares.

Lead Stakeholder: Planning Board



- **Strategy 8B3: Prioritize walkway access to buildings by improving entryways facing walking routes.** While retailers often covet visibility from the road and easy parking access, studies prove that many more customers arrive on foot in walkable districts. Communities that encourage walkable streetscapes in their plans for building facades, entries, landscaping, and awnings are repeatedly rewarded by increased walking activity and retail sales. All future development in Wellesley’s commercial districts should be oriented to walking access, elevating the importance of the pedestrian and the walk-in customer.

Lead Stakeholder: Design Review Board

- **Strategy 8B4: Sponsor "walk 2 shop" days with rewards for pedestrians.** Traditional downtown fairs, farmers markets, and “midnight madness” sales are excellent ways to encourage walking in commercial districts, as well as attracting shoppers for retailers. By marketing such incentives as free water bottles, ice cream scoops, t-shirts, shopping

discounts, etc., business associations are indirectly encouraging walking activity in their shopping districts. The Town and Chamber of Commerce should promote such events more frequently in Wellesley to help develop a positive sense of walking in town on many days throughout the year, helping to promote sustained walking and local shopping throughout the entire year.

Lead Stakeholder: Wellesley Chamber of Commerce



TOWN OF WELLESLEY PLANNING BOARD

WELLESLEY WALKS

A Comprehensive Pedestrian Program

APPENDIX A

Pedestrian Enhancement Toolbox

November 2009

Appendix A: Pedestrian Enhancement Toolbox

This appendix presents useful details for developing specific action items recommended by the Plan, as well as to be recommended in future walkability efforts in Wellesley.

Pedestrian Planning Principles

Throughout the course of the Walkways Task Force meetings, nearly all participants agreed on many of the fundamentals of pedestrian-oriented planning. These fundamental pedestrian planning concepts are summarized below. These are helpful generalized guidance that may be applicable to other communities and should be shared as broadly as possible.

Promoting Connectivity

Connectivity is essential for encouraging pedestrian movement. As the slowest and most laborious common form of surface transportation, walking requires easy and direct connections to be most efficient and attractive to travelers.

Street Network

A well-designed network of streets and pedestrian ways is key to pedestrian accessibility. The scale, interconnectivity, frequency, and continuity of streets are important to the creation of a transportation system that is supportive of walking. Elements include:

1. A well developed and cohesive pedestrian network.
2. Interconnected through-streets that disperse traffic loads across a number of pedestrian-scaled streets.
3. Minimized number of wide streets with over three lanes.
4. Continuous non-roadway pedestrian networks that connects through blocks and sites, and connects buildings to each other, to the street, and to transit facilities.
5. Midblock pedestrian crossings at appropriate locations.

Intersection Elements

Even if street and pedestrian networks are interconnected, it can be difficult for pedestrians to cross streets. Intersection design must support safe and convenient street crossings. Elements include:

1. High-visibility striping and/or alternative paving treatments for pedestrian crossings.
2. Use of special signal devices at wide intersections.

3. Maximized pedestrian visibility at intersections.
4. Maximum curb radii policy.
5. Bulbouts to minimize crossing distances.
6. Refuge median islands at wide crossings.
7. Pedestrian-friendly signal timing.
8. Devices that warn vehicles of the presence of pedestrians.
9. Universally accessible curb ramps.

Access to Transit

Many communities and their regions have made significant investments in building and operating their transit systems. In order to support transit, investments should also be made to improve pedestrian access to transit because these support increased ridership and a more functional multimodal transportation system. Elements include:

1. Enhanced crossings at intersections within a quarter mile of rail transit stations and major bus stops.
2. Integrated transit access routes with surrounding street and trail networks, plus direct access to/from adjacent developments.
3. Signal timing to benefit pedestrians at intersections within a quarter mile of rail transit stations and major bus routes.
4. Universally accessible, high amenity transit facilities.

Creating Walkable Street Character

The most common connectivity elements for pedestrians are our streets. Streets are the front porches of our communities and the most common open space. It is essential that streets are safe and accommodating for pedestrians if we intend to encourage walking.

Travelway Elements

The travelway, the roadway space between the curbs, can be designed to serve traffic while still providing a high-quality pedestrian environment and improving safety for all modes. Elements include:

1. Street design sensitive to the surrounding land use context.
2. Traffic lanes that are needed, but not more.
3. Narrower streets and travel lanes.

4. On-street parking and/or bicycle lanes to provide "buffer."
5. Physical traffic calming devices to reduce speeds and protect neighborhoods.
6. Transit treatments such as exclusive bus lanes and sidewalk bulbouts at bus stops.

Sidewalk Elements

The creation of a pedestrian supportive environment requires more than just a minimum width of sidewalk. Sidewalks are multi-functional and their design should reflect the amount of pedestrian activity as well as the context of the sidewalk. Elements include:

1. Sidewalk widths which are appropriate for the activities and pedestrian levels along the street. At a minimum, sidewalks with universally accessible widths, cross-slopes, grades, and surfaces.
2. Pedestrian-scaled street lighting in addition to roadway lighting.
3. Street trees, planting strips and/or bollards to buffer pedestrians from traffic.
4. Pedestrian amenities such as seating, news racks, recycling bins, water fountains, outdoor cafes, retail displays, and public art.
5. Pedestrian-oriented signage.

Understanding the Walking Context and Character

A pedestrian-supportive transportation network should be designed to reflect an area's land use context, and conversely the land use and urban design context should be designed to support pedestrian activity.

Land Use

Community structure is the basis for a pedestrian-friendly environment meaning that there must be a relationship between the transportation system and the land uses that it serves. Therefore a mix of complementary land uses, appropriate land use densities and compact development are necessary to make walking a viable option. Strategies may include:

1. Promote infill development.
2. Concentrate land uses that encourage walking.
3. Mix land uses that encourage walking.

4. Provide public space such as plazas, greens, and pocket parks.

Site Design

The configuration of development fronting the pedestrian realm is a key factor in pedestrian comfort and safety. Providing a defined 'street wall' makes the pedestrian feel more secure, and controlling vehicular crossings of the pedestrian way reduces the number of potential conflict points.

1. Buildings near the street with minimal setbacks.
2. Pedestrian-friendly site access for automobiles.

Architectural Design

Since it is desirable for buildings to directly front the pedestrian realm, the character of the architecture is important. Pedestrians require visual interest, a sense of security and protection, and easy access to adjacent uses to improve their walking experience.

1. No blank walls facing the street environment.
2. Doors and windows oriented to face the pedestrian realm.
3. Architectural details scaled to the pedestrian along street frontages.

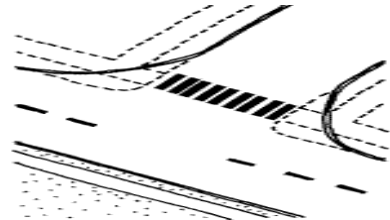
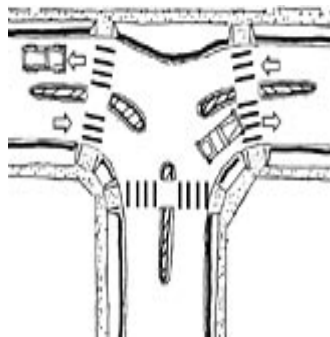
Parking Elements

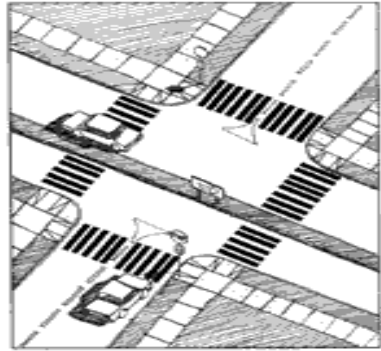

Parking facilities can be shared and integrated into the community in such a way that they do not alienate the pedestrian, but allow for safe and comfortable pedestrian movement. Once a car is parked its passengers become pedestrians.

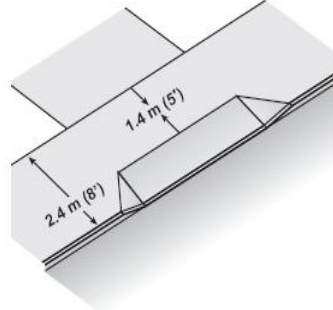

1. Shared parking and reduced parking requirements in pedestrian/transit districts.
2. Surface lots required to be at the rear of buildings.
3. Street-level active mixed uses or landscaped screening for parking structures.
4. Clear, direct and attractive internal pedestrian circulation network to building entrances and the surrounding sidewalk.
5. Landscaping to reduce impervious surfaces and trees to shade pedestrians.



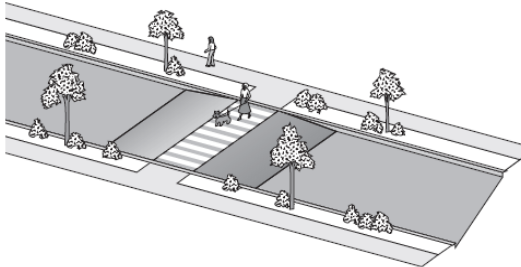
Pedestrian Oriented Infrastructure

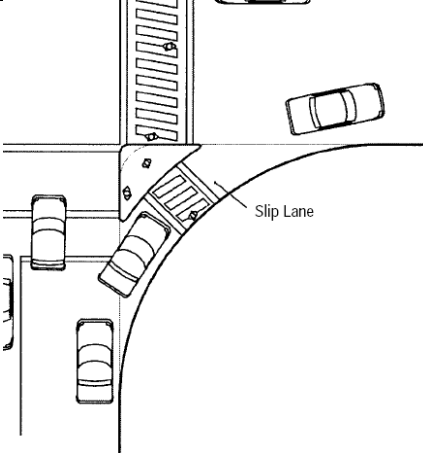

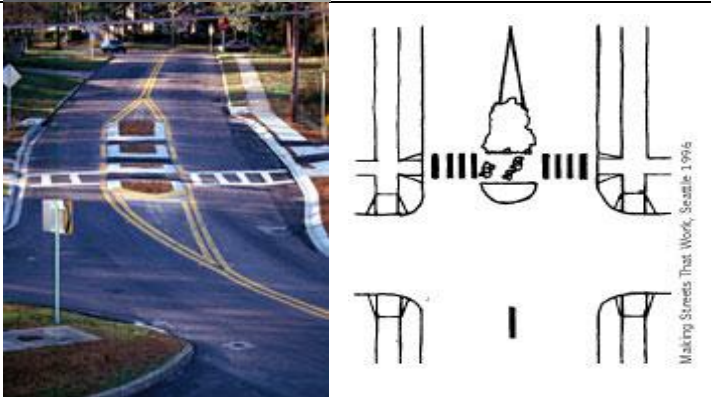
The following tables summarize many of the technical details and costs associated with pedestrian facility improvements. This toolbox is intended to serve as a guidebook for future walkability efforts in Wellesley. The “tools” listed are arranged by 1) Intersections; 2) Pedestrian Crossings; 3) Sidewalks; 4) Street Management; 5) Signals & Signs; 6) Volume Control; and 7) Traffic Calminging.

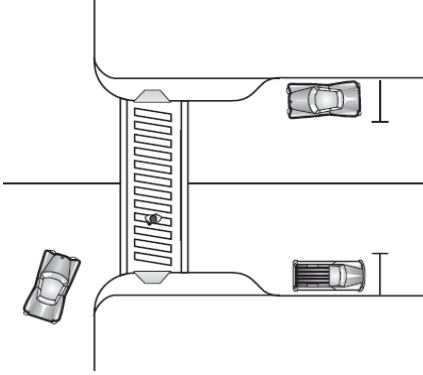


1) INTERSECTIONS				
TOOL	PURPOSE	DETAILS	TECHNICAL DETAILS / COST	EXAMPLES / SPECIFICATIONS
Reduced curb radii at intersections	To slow turning vehicle speeds, forcing greater awareness of crossing pedestrians and increased sense of pedestrian safety.	10-15' where there are no bulbouts <15' where there are no large vehicles 25' for transit vehicles	\$2,000 to \$20,000 per corner, depending on site conditions (e.g., drainage and utilities may need to be relocated)	
Modified T intersection	To reduce speeds of through traffic on lower-volume streets in residential areas and to discourage cut through traffic	Involves a gradual curb extension or bulb at the top of the T such that vehicles are deflected slightly as they pass straight through the intersection.	\$20,000 to \$60,000, depending on the design and whether drainage and utilities need to be relocated.	



Intersection median barriers	To restrict vehicle entry into and out of neighborhoods while benefitting pedestrians who need to cross any leg of the intersection		\$10,000 to \$20,000	
Raised intersections/tables	To emphasize presence and priority of pedestrians and increase visibility while slowing vehicle speeds	Ideally, tables should span an entire intersection, encompassing all crossings and eliminating the need for HP ramps. In mid-block locations, tables generally should be 22' long. Typical elevation is 3-4" though 6-8" have been successfully constructed on lower-speed roads. Approach and departure grades of 8% or less should be designed with emergency response apparatus in mind. Typically installed on local two-lane roads only with speed limits no more than 30 mph.	\$15,000 to \$30,000 per 30 m (\$15,000 to \$30,000 per 100 ft), depending on the design, site	


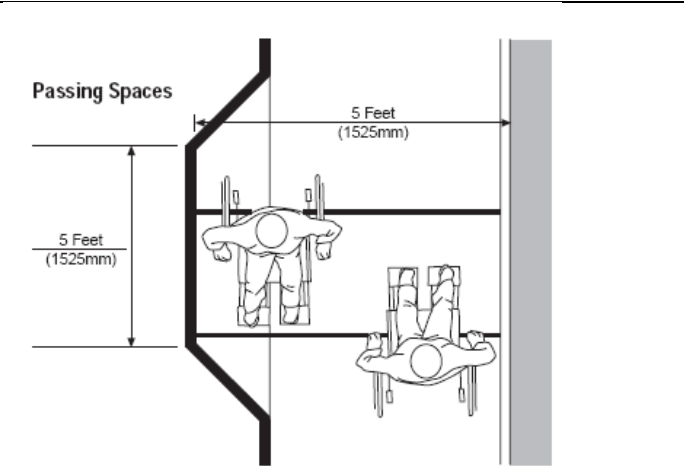
2) PEDESTRIAN CROSSINGS				
TOOL	PURPOSE	DETAILS	TECHNICAL DETAILS / COST	EXAMPLES / SPECIFICATIONS
HP Ramps	Required per ADA. Creates improved access for any pedestrian, especially the young, infirm and the elderly.	Slope cannot exceed '1:12" or a maximum grade of 8.33% Level top landing cannot exceed a 3% cross-slope Level top landing may be shared by two or more ramps Detectable warning strips required at pavement edge Granite curb should not be installed at the bottom of a ramp	\$800 to \$1,500 per curb ramp (new or retrofitted).	
International Standard Crosswalks	To maintain consistent marking pattern so to avoid confusion with stop bars, and to be seen well from a distance.	Bars should be 1-2' wide and at least 8' long; 12' or longer at high-conflict crossings Well-planned bar placement reduces tire wear Bars should cover full extend of curb ramp bottom landing At intersections, bars should stretch to be as close to intersecting curbline as possible Reflective materials should be used, including glass-infused thermoplastic		

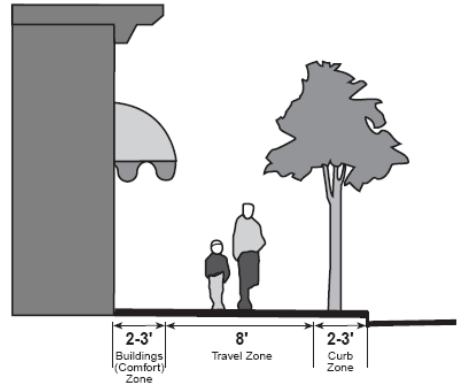


Well-marked crossings	To ensure visibility and awareness of crossings	Inlay tape is recommended for new and resurfaced pavement, while thermoplastic may be a better option on rougher pavement surfaces. Both inlay tape and thermoplastic are more visible and less slippery than paint when wet.	Approximate installation costs are \$100 for a regular striped crosswalk, \$300 for a ladder crosswalk, and \$3,000 for a patterned concrete crosswalk. Maintenance of the markings must also be considered and varies by region of the country and materials used.	
Textured or colored crossings	Special crossing treatments can emphasize special crossings	Installations could include solid granite paints, pavers or bricks, stamped colored concrete, granite edging, thermoplastic panels, etc. Design should not impair wheelchair movement (no cobblestones). Permanence of design should not take priority over visibility. Maintenance considerations in cold climates must be considered where there are material seams.		
Raised pedestrian crossings	To emphasize pedestrian crossing by forcing vehicles to travel slow in all conditions. To emphasize distinct pedestrian space on the road.	Must be accompanied by appropriate advanced drivers' warning and reduced speed caution signing Careful design of approach and descent ramps to allow minimum speed limit by vehicles to be maintained (typically 25 or 30 mph) Grades generally do not exceed 1:12 Crossing should be level with sidewalks, eliminating the need for HP ramps	\$2,000 to \$15,000, depending on drainage conditions and material used	




<p>Raised crossings on right-turn slip lanes</p>	<p>Where slip-lanes cannot be eliminated, a raised crossing to the corner island can protect pedestrians in these dangerous locations</p>	<p>Slip-lanes (signalized or unsignalized) represent a hazard to pedestrians as drivers look left to merge instead of at pedestrians. Where retained, the installation of a raised crossing in the slip-lane forces drivers to slow and yield to pedestrians before merging. - Slip-lane approach should not exceed 15% deflection from through lanes before crosswalk</p>		 <p>Slip Lane</p>
<p>Pedestrian auto-detection</p>	<p>To alert drivers of a pedestrian crossing the street at locations with activated beacons or to trigger pedestrian signals. It is also used to extend pedestrian intervals at signalized intersections if pedestrians are detected in the crosswalk.</p>	<p>Devices are activated without relying on pedestrians to push a button</p>	<p>\$500-\$1,000 per sensor for microwave and infrared sensors, \$15,000- \$25,000 per camera sensor.</p>	
<p>Pedestrian Crossing Islands</p>	<p>To enhance pedestrian safety by allowing pedestrians to be concerned with one direction of traffic at a time while also calming vehicle speeds. Also reduces crossing distance on wide roads by providing pedestrians a safe space to rest in between curbs.</p>	<p>Advantage of not requiring any drainage infrastructure Minimum island width of 6' to accommodate bikes and strollers Minimum island cut width of 5' (no ramps needed) Cuts wider than 8' should include a bollard to discourage accidental vehicle use Sufficient object market signing necessary</p>	<p>\$4,000 to \$30,000.</p>	 <p>Making Streets That Work, Seattle, 1996</p>

Curb extensions (aka Bulbouts)	To shorten crossing distance, increase visibility of pedestrians, and expand pedestrian realm	Can be utilized at intersections and mid-block. Generally used where on-street parking is present, though can be utilized in a no-parking shoulder. Width should be equal to at least that of the parking lane or a minimum of 5'. Length varies with drainage placement but is often 20' or more to enforce corner clearance of parked cars.	\$2,000 to \$20,000 per corner, depending on design and site conditions. Drainage is usually the most significant determinant of cost.	
Custom crosswalks	Create a sense of place through attractive and creative crosswalks	Working with Integrated Paving Concepts to custom design a Streetprint crosswalk that reflects local context		
Advance vehicle stop lines	To better separate stopped vehicles from crossing pedestrians, emphasizing the importance of a crossing	Where clearance intervals permit, a 2-4' wide stop bar is placed from 5-20' before the crosswalk to emphasize the importance of not blocking the crosswalk	\$200 to \$500 per location, depending on the materials used and the width of the streets.	
Advance Yield Markings ("shark teeth")	To clearly mark the point at which drivers should yield to pedestrians; used in conjunction with advanced yield signs	Row of 1-2' isosceles triangles perpendicular to travel lane, at least 30' before a crosswalk. Use of reflective thermoplastic, inlay or other long-lasting marking preferred		


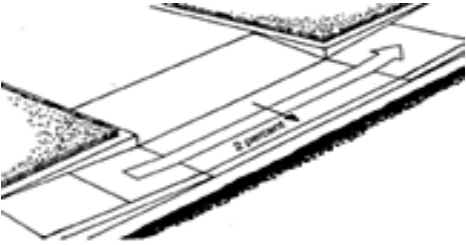

3) SIDEWALKS				
TOOLS	PURPOSE	DETAILS	TECHNICAL DETAILS / COST	EXAMPLES / SPECIFICATIONS
Continuous and connected in a network with access to goods, services, transit, and homes	To provide convenience and comfort to pedestrians and not require them to walk out of their way to reach their destination(s)	Grid patterns are most conducive to a well-connected walkway and sidewalk system, combined with a mixed-use, high-density built environment		
Eliminate the rolled curb and replace it with landscape strip and/or boxed curb	To inhibit driver's from parking or easily driving onto the sidewalk			

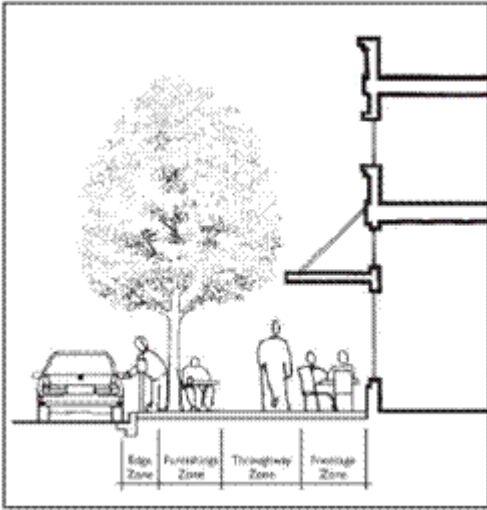

Material should be firm, planar and slip-resistant (.i.e., concrete)	To avoid tripping walkers and alleviate rain flow or snow shoveling hassles, as well as to minimize vibrations for wheelchairs	Avoid cobblestone and brick	The cost for concrete curbs and sidewalks is approximately \$49/linear meter (\$15/linear foot) for curbing and \$118/square meter (\$11/square foot) for walkways. Asphalt curbs and walkways are less costly, but require more maintenance, and are somewhat more difficult to walk and roll on for pedestrians with mobility impairments.	
Increased minimum sidewalk widths	To provide sufficient space for people (including children) to interact, not just walk, while enjoying sufficient room to travel, and to provide space for 2 wheelchairs to pass.	Minimum width should begin at 5'-8" and to 15' near schools, parks, busy pedestrian areas		


Maintain 8-15' unobstructed walking zone in commercial areas	To provide ample space for walking in groups and social interaction	Should be at least 5-8' wide		
Maximum grade of 5% (1:20) unless handrails are provided	To accommodate wheelchairs and the elderly			
Walking Amenities	Install features that attract walking, such as benches, shade streets, trash barrels, art installations, signing, bollards, etc.	Installations should be low-maintenance and regularly maintained Installations should not obstruct ramp and crosswalk approaches Effective sidewalk width should be maximized and never less than 5 feet		
Allow outdoor seating, vendors, and displays	To de-sterilize the pedestrian environment, foster socialization, and provide rest areas for walkers	May require changes in zoning to allow commercial sidewalk activity		 <p>CDD</p>




Adopt furniture and newspaper rack ordinances	To maintain amenity without obstacles	Objects must not obstruct pedestrian travel zone			
Remove poles, signs, dumpsters from obstruction	To create a safe and continuous path for pedestrians				
Stamped pavement	Replace cobblestones and brick with aesthetic stamped pattern pavement				


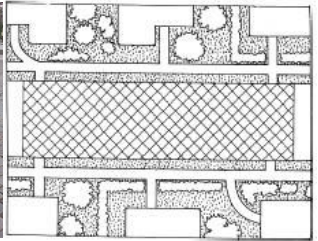

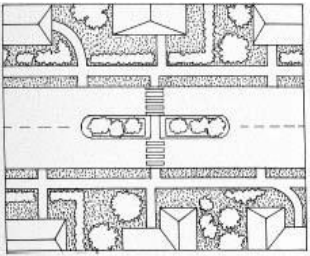
Michael Ronkin, Designing Streets for Pedestrians and Bicyclists


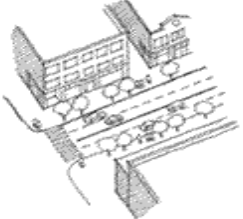
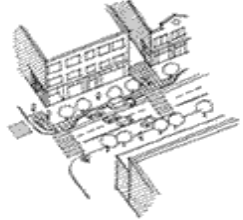
Avoid 'wandering sidewalks'	To allow pedestrians to reach their destinations directly and not feel as if they are being lead astray				
Provide flat walkway where driveways slope	To support continuity of the walking path and accommodate wheelchairs	No more than 2% slope	No additional cost of part of original construction		
Maintain sidewalk texture and visual appearance across driveways and curb cuts	To maintain a sense of pedestrian dominated space and continuity across areas where cars are present				

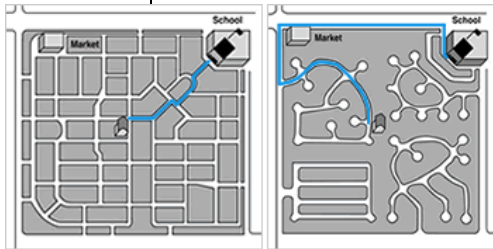
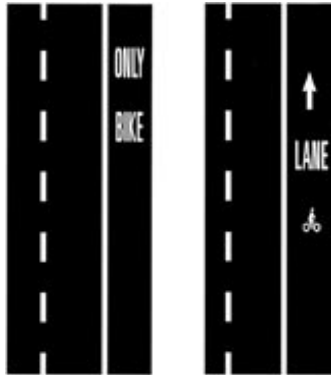
Designate a "furnishing zone" between walkway and street for seating, racks, vendors, signs, shelters, etc	To provide a buffer from traffic and give designated space for objects that could otherwise act as obstructions if not properly placed	Keep street furnishings at least 4' from curb		
Provide flat space every 400 feet on long, steep grade areas	To offer space for rest for elderly or disabled pedestrians			
Store fronts at street level	To keep pedestrian environment interesting and secure			


Provide landscaping	To provide desirable microclimates and a sense of psychological and visual comfort for pedestrians	Maintenance must be considered and agreed to up front, whether it is a municipality or neighborhood residents who will take responsibility for the maintenance.	Often, municipalities will pay for the initial installation and neighborhood residents or businesses agree to maintain anything more elaborate than basic street trees.		




4) STREET MANAGEMENT				
TOOLS	PURPOSE	DETAILS	TECHNICAL DETAILS / COST	EXAMPLES / SPECIFICATIONS
Adopt 'Complete Streets' framework	To include designated space for multiple modes on the street			
Include Pedestrian delay in evaluation of traffic impacts	To encourage a balanced approach to traffic impact studies	Simple Highway Capacity Manual delay equations at signalized and unsignalized intersections provide LOS A-F equivalents. Minimizing vehicular delay often hurts the walking environment. Measures to minimize pedestrian delay such as concurrent and protected crossings often improve vehicular LOS.		insert LOS Delay table from HCM
Avoid excessive curb cuts	To reduce driver distraction, slow vehicle speeds, and make safer sidewalks	Curb cuts should not be closer than 50' to an intersection. Access to adjacent parcels should be consolidated into common driveways. Goal should be to minimize curb cuts in sidewalks.		 <p>Tight curb radius means a shorter crosswalk.</p>  <p>Wide curb radius means a longer crosswalk.</p>



No Parking within 25' of intersection or crosswalk	To ensure adequate visibility of pedestrians	Corner clearances at intersections ensure visibility of approaching pedestrians to turning cars, clearances in advance of mid-block crossings are necessary to ensure adequate driver reaction		
Textured pavement	To maintain slower vehicular speeds and driver awareness	Can be applied to intersections or to entire zones where pedestrian activity is high and uncontrolled crossings occur, include warning signs and maximum speed limits of 10-25 mph		
Mid-block crossings	To protect clear pedestrian desire lines when an intersection is not present	Especially important at transit stops and between major destinations, Adequate advanced yield warning signs and markings should be utilized, Signalization should be considered where vehicle speeds are high,	\$50,000-\$75,000, depending on the width of the street and the length of the mast-arm poles	 


Buffer zone between street and sidewalk	To provide a degree of protection from moving vehicles, encouraging walking, especially where vehicle speeds or volumes are high	Buffers can include street furniture, landscaping, parking, bike lanes, drinking fountains, carts, etc., Where on-street parking is not provided, a 4-6' buffer is desirable		
Narrowing travel lanes	To increase pedestrian safety, driver caution and to reduce vehicular speeds	The “friction” of a narrower roadway naturally causes drivers to slow down; narrowing a lane from 11' to 10' reduces speed by 7 mph, Lanes can be reduced to 10'6” on high volume roads of 2 or 4 lanes Lower volume roads can tolerate 9' lanes Local residential “yield” streets may have a 2-way travel area between parking lanes of 18' or less, depending on fire apparatus needs		 <p>before</p>  <p>after</p>
Remove un-needed alleys and driveways	To increase continuity of walkways and reduce encounters between pedestrians and cars			


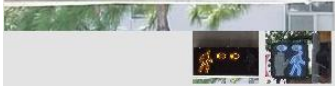
Increase connectivity with other streets	To provide a variety of direct routes for reaching a destination, to slow speeds due to frequent intersections and to increase emergency access	Avoid dead ends and cul-de-sacs		 <p>Street Connectivity - Many Options Lack of Connectivity - Few Options</p>
Restrict block length	To provide multiple means of reaching destinations and encourage slower speeds due to frequent intersections, also to enhance connectivity	No more than 600' long		
Install bike lanes	To add a buffer between pedestrians and vehicles and to further 'complete the street'	If possible, include physical barrier between bike and vehicle lanes	\$3,100 to \$31,000 per kilometer (\$5,000 to \$50,000 per mile), depending on the condition of the pavement, the need to remove and repaint the lane lines, the need to adjust signalization, and other factors.	

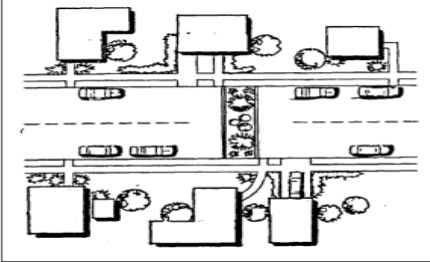

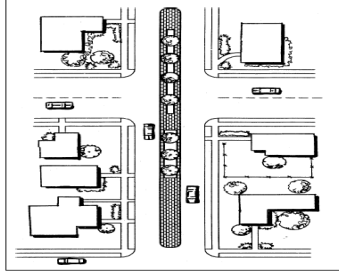

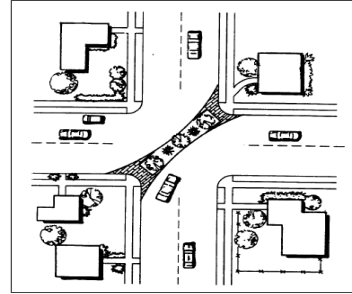

5) SIGNALS AND SIGNS				
TOOLS	PURPOSE	DETAILS	TECHNICAL DETAILS / COST	EXAMPLES / SPECIFICATIONS
Maximum delay of 90 seconds for traffic signals, 60-90 second frequencies	To reduce pedestrian wait time and decrease jaywalking			
Time signals progressively	To keep traffic slow but not delayed			
Provide a walk cycle for every signal interval	To maintain pedestrian flow and reduce frustration and thus likelihood for jaywalking			
Exclusive pedestrian signals (no other traffic moving)	To bring drivers' attention to pedestrian crossing and emphasize the pedestrian's time to cross			
'No Right-Turn on Red' in busy pedestrian areas	To avoid pedestrian collisions with turning cars who are often most concerned with left-approaching traffic			




Install Camera Enforcement	To convey seriousness of violating traffic signals			
Signage using fluorescent yellow or green	To distinguish between conventional traffic signs and attract drivers' attentions	Pedestrian signs made of the FHWA-approved fluorescent yellow-green color are posted at crossings.	\$200 to \$300 per sign	
Signage to notify driver's of heavy pedestrian zones	To increase drivers' awareness of pedestrian activity			
Audible signals	To notify visually impaired pedestrians	Walk signal is accompanied by a loud distinct sound, often an electronic bird chirp		

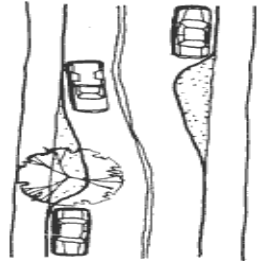
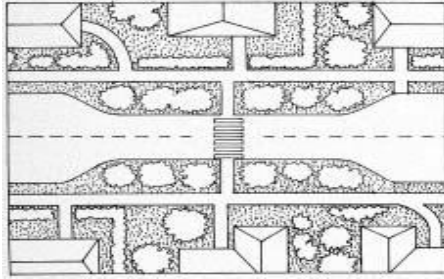
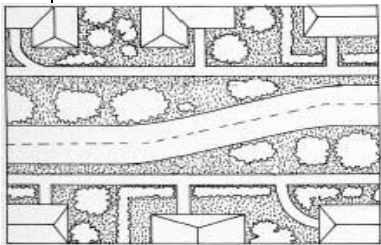
Countdown signals	To allow pedestrians to make reasonable decisions for when to cross the street			
Signal length adjusted for walking speeds of 3' per second	To accommodate elderly and slower-walking pedestrians	Walk rates of less than four feet per second are ideal for signalized intersections near elementary schools, middle schools, facilities for the disabled, and senior developments. Leading pedestrian phases are ideal for signalized intersections with a high incidence of conflicts between pedestrians and turning vehicles. Pedestrian scramble phases are ideal for signalized intersections with very high pedestrian volume		
"Share the Road" signs	To remind drivers of other modes of traffic			
Implement a system of way-finding signs in heavy pedestrian districts	To establish clarity of route options between destinations and avoid unnecessary or dangerous crossings	A careful signing plan can direct pedestrians to less visually-obvious routes, helping to avoid demand at unsafe crossing locations. Signing should be consistent and simple		

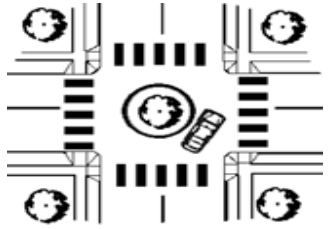




Provide more than marked crossings (i.e., signals, traffic calming)		Especially when: -Speeds are more than 40 mph, -There are more than 4 lanes of traffic and no median island -More than 12,000 vehicles are traveling per day -There are more than 4 lanes of traffic with a median and more than 15,000 vehicles traveling per day		
Keep signs at pedestrian level and orientation with attention to craftsmanship	To ensure visibility of signs to pedestrians and maintain a sense of place and character			
Externally laminate signs with non-florescent colors				
Incorporate signs into buildings and existing structures	To avoid clutter and confusion and integrate signage with existing built environment			
Provide separate left-turn signals and "Walk"/"Don't Walk" signals	To prohibit collision during simultaneous pedestrian crossing and vehicle turning			
Post signs for pedestrians to make eye contact with drivers before crossing	To increase pedestrian awareness of the danger of crossings and avoid careless collisions			


Roving eyes	To encourage pedestrians to look for turning vehicles traveling on an intersecting path by including a prompt as part of the pedestrian signal display.	An animated eye display uses an LED pedestrian signal head and adds animated eyes that scan from side to side. The device uses narrow (8-degree) field-of-view LEDs on a black background. The display is highly visible to pedestrians while limiting pedestrian signal displays to drivers. The blue LEDs display two blue eyes with blue eyeballs that appear to scan from left to right at the rate of one cycle per second.	\$500-\$800 per pedestrian signal indication	 
Install Pedestrian Pushbutton Technique	To send information to certain types of traffic control devices regarding the presence of a pedestrian who wishes to cross. For traffic signals, pedestrian actuation changes signal timing to accommodate pedestrian walk times	Various treatments include supplemental signage; tactile, vibrotactile, and auditory features; extended press features; actuation indicators; and internal illumination. Supplemental signage may include arrows that point to the direction of the crosswalk that is served by the pushbutton, educational signs that explain the meaning of pedestrian signal indications, or street names.	\$400-\$1,000 per push button	

6)VOLUME CONTROL (TO DISCOURAGE AND ELIMINATE THROUGH TRAFFIC)				
TOOLS	PURPOSE	DETAILS	TECHNICAL DETAILS / COST	EXAMPLES / SPECIFICATIONS
Full and half street closures				
Median barriers		Raised islands across center of street		
Forced-turn islands		Raised islands that block certain movements		

7) TRAFFIC CALMING				
TOOLS	PURPOSE	DETAILS	TECHNICAL DETAILS / COST	EXAMPLES / SPECIFICATIONS
Install speed humps	To maintain slower vehicular speeds and driver awareness	Grade of 8% or less, on local roads only, speed limits no more than 30 mph, no more than 2 travel lanes. Generally should be 12' long, 3-4" high	approximately \$1,000 per speed hump	
Speed tables	To reduce speeds and enhance pedestrian environment at crossings	A very long and broad speed hump, or a flat-topped speed hump, where sometimes a pedestrian crossing is provided in the flat portion of the speed table, usually 3-4" high and 22' long	\$2,000 to \$15,000, depending on drainage conditions and materials used.	
Raised intersections	To reduce speeds and enhance pedestrian environment at crossings	Essentially, this is a speed table for the entire intersection	\$2,000 to \$15,000, depending on drainage conditions and material used. The cost of a raised intersection is highly dependent on the size of the roads. They can cost from \$25,000 to \$75,000	

Chicanes (deleted)	To reduce speeds and create more greenery	Curb extensions that alternate from one side of the street to the other	Costs for landscaped chicanes are approximately \$10,000 (for a set of three chicanes) on an asphalt street and \$15,000 to \$30,000 on a concrete street.	
Chokers	To slow vehicles at mid-point along the street, create room for landscaping, define transition from commercial to residential area	Curb extensions at midblock that widen a sidewalk or planting strip- can reduce size of travel lane down to 16'	\$5,000 to \$20,000, depending on site conditions and landscaping. Drainage may represent a significant cost	
Lateral shifts		Curb extensions on straight streets that make traffic bend		
Re-aligned intersections		Changes in alignment to make intersection curve		

Mini-circles at intersections (10-20' diameter)	To manage traffic at intersections where volumes do not warrant a stop sign or a signal and to slow speeds	Raised circular islands constructed in the center of residential street intersections (10-20' diameter)	\$6,000 for a landscaped traffic mini-circle on an asphalt street and about \$8,000 to \$12,000 for a landscaped mini-circle on a concrete street.	
Paving treatments	To slow traffic	i.e., Cobblestone, although this may be a noise nuisance and unfriendly for bikes	 	
Diverter (Including diagonal, star, truncated or forced-turn diverters)	Discourages cut-through traffic	Heavy impact on residents	\$15,000-\$45,000 each, depending on the type of diverter.	 

Speed monitoring trailer	To encourage driver awareness			
Lane reduction	To provide space for all users, reduce speeds, remove excess space given to cars, and increase space for social interaction	Roadway capacity and safety must be considered before removing a lane	The cost for restriping a kilometer of four-lane street to one lane in each direction plus a two-way, left-turn lane and bike lanes is about \$3,100 to \$12,400 (\$5,000 to \$20,000 per mile), depending on the amount of lane lines that need to be repainted.	
Posted speed limit signs	To inform drivers of enforcement presence			



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